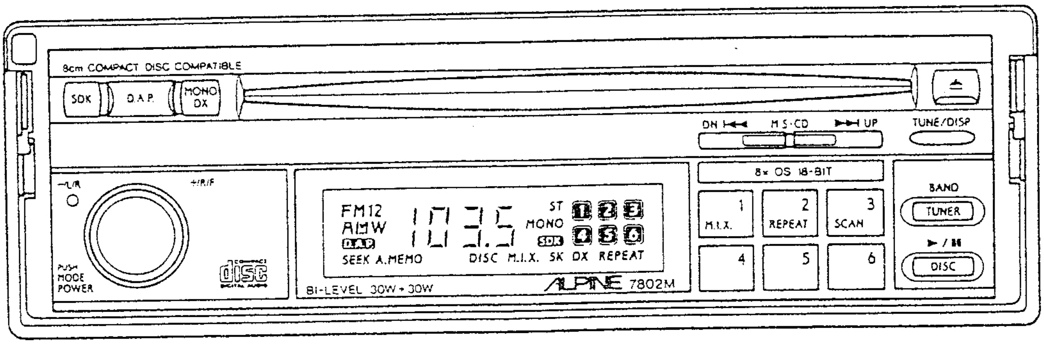
ALPINE SERVICE MANUAL

FM/MW/LW/SDK CD Receiver

COMPACT
disc
DIGITAL AUDIO

- The model described in this manual is developed from Model 7803M. For information that is not mentioned in this service manual refer to the Service Manual 7803M (68P32124W02).
- For the CD player mechanism parts (DP24A210) of this model, refer to the Service Manual • DP-S Series (68P13315W04).


8cm COMPACT DISC COMPATIBLE
SDK
D.A.P.
MONO
DX
DN
M.S-CD
UP
TUNE/DISP
−L/R
+R/F
PUSH
MODE
POWER
FM12
AMW
D.A.P.
1035
ST
MONO
SDK
SEEK A.MEMO
DISC M.I.X. SK DX REPEAT
BI-LEVEL 30W+30W
ALPINE 7802M
8× OS 18-BIT
1 M.I.X.
2 REPEAT
3 SCAN
4
5
6
BAND
TUNER
►/❚❚
DISC

7802M

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Spare Schematic Diagram Inserted.

Disassembly Instructions
Adjustment Procedures
Electrical Inspection Specification
Tuner Schematic Diagram
LCD Display

— Refer to the Service Manual 7803M (68P32124W02).

Specifications

<CD SECTION>

System	Optical (Compact Disc System)
Quantizing Bit Number	16 Bit Linear System
Channels	2 channels
Distortion (at 1kHz)	0.03%
Frequency Response (Ref. 1kHz)	0 ± 3dB (17Hz) 0 ± 2dB (127Hz~10.007kHz) 0 ± 4dB (19.997kHz)
S / N Ratio	85dB
Separation (at 1kHz)	60dB
De-Emphasis (Ref. 1kHz)	4kHz : -20 ± 3dB 16kHz : -20 ± 3dB
Noise Level (at VOL. Min)	0.1mV
Currents (at Play)	1.2A

<FM SECTION>

Intermediate Frequency	10.7 ± 0.1MHz
Frequency Range	87.5~108MHz
Usable Sensitivity (Mono 30dB S / N, at 98.1MHz)	17.2dBf
-10dB Limiting Sensitivity (Mono)	13.2 ± 6dBf
S / N Ratio (Stereo, at 98.1MHz)	48dB
Image Rejection (Ref. -3dB Limiting, at 98.1MHz)	40dB
IF Rejection (Ref. -3dB Limiting, at 90.1MHz)	60dB
Distortion (Input 1mV at 98.1MHz)	1%
Frequency Response (Ref. 400Hz, at 98.1MHz)	100Hz : 0 ± 3dB 10kHz : -12 ± 3dB
Stereo Separation (at 1kHz)	25dB
SK Sensitivity (at 98.1MHz)	25.2dBf

<MW SECTION>

Intermediate Frequency	450kHz
Frequency Range	531~1,602kHz
Sensitivity (20dB S / N, at 999kHz)	34dB
S / N Ratio (at 999kHz)	44dB
Image Rejection (at 1,404kHz)	50dB
IF Rejection (at 603kHz)	60dB
Distortion (at 999kHz)	2%
Frequency Response (Ref. 400Hz, at 999kHz)	100Hz : -3 ± 4dB 4kHz : -12 ± 6dB

<LW SECTION>

Intermediate Frequency	450kHz
Frequency Range	153~281kHz
Sensitivity (20dB S / N, at 216kHz)	41dB
S / N Ratio (at 216kHz)	40dB
Image Rejection (at 216kHz)	50dB
IF Rejection (at 216kHz)	50dB
Distortion (at 216kHz)	2%
Frequency Response (Ref. 400Hz, at 216kHz)	100Hz : -3 ± 4dB 4kHz : -12 ± 6dB

<GENERAL>

Power Supply	DC14V
Output Power (T.H.D 10% at 1kHz)	2 Speaker Mode : 13W / ch / 4ohm 4 Speaker Mode : 4W / ch / 4ohm
Pre - Output Voltage / Impedance	1.6V / 10kohm
Semiconductors	35IC's, 71Transistors, 29Diodes, 12Zener Diodes
Dimensions (W × H × D)	Chassis : 178 × 50 × 153mm Nose : 178 × 50 × 15mm
Weight	2.2kg

<COMPACT DISC>

Track Pich	1.6μm
Modulation Frequency	44.1kHz
Transfer Rate	4.3218Mbit / sec.
Dimensions	120 / 80 × 1.2mm

NOTE : Due to Continuing product improvement, specifications and designs are subject to change without notice.

FEATURES

- **FULL FRONT DIN™ CHASSIS**
- **HIGH POWER TUNER COMPACT DISC PLAYER**
- **Q.R.B. (QUICK RELEASE BRACKET)**
  Alpine's exclusive Q.R.B. design allows for easy removal and insertion of the 7802M while still maintaining the unit's memory. The 7802M can be removed and taken with the owner for theft prevention.
- **SDK FUNCTION**

‹COMPACT DISC PLAYER FEATURES›

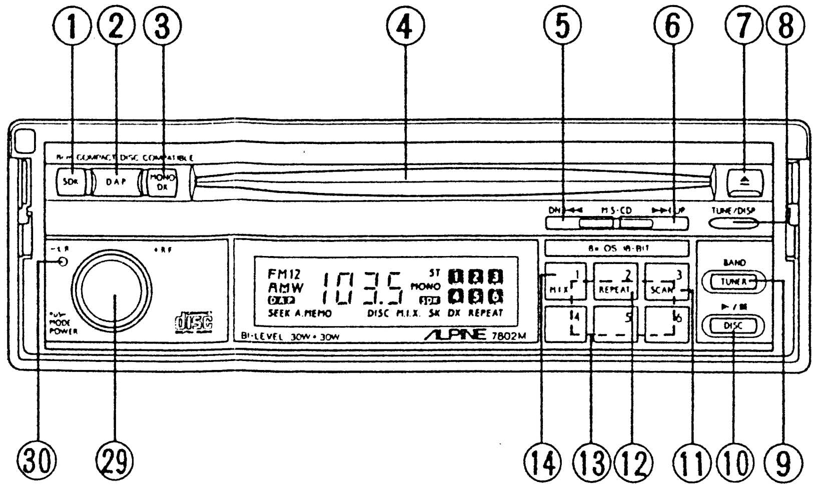
- **8-TIMES OVERSAMPLING DIGITAL FILTER**
- **HYBRID IDAC**
  Alpine's 18-bit Hybrid interpolative DAC combines 1-bit D/A conversion technology (for excellent low level linearity) and a multi-bit D/A converter (for best Dynamic Range, Signal-to-Noise Ratio, and lowest distortion and noise characteristics).
  The result is flawless, accurate performance, outstanding resolution and detail along with superb Dynamic Range.
- **MUSIC SENSOR UP/DOWN**
  For locating the beginning of the next track (up), or the track currently in playback (down).
- **FAST FORWARD/FAST BACKWARD**
- **M.I.X.**
  The tracks on the disc will be played randomly.
- **REPEAT**
- **3-INCH (8 cm) DISCS**
  This unit plays 3-inch (8 cm) compact discs without using an adaptor ring.
- **EJECT AUTO-LOCK**
  This locks the laser mechanism when a disc is ejected.
- **DISC SCAN**
  Locates the beginning of each track and plays the first 10 seconds.
- **ELECTRONIC EJECT/RELOAD**
- **PAUSE**

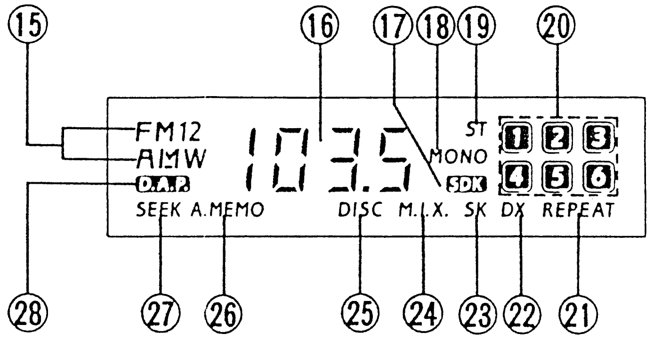
FEATURES

‹RADIO FEATURES›

- **T-10IIS TUNER**
  Alpine's premier tuner utilizes a number of innovations to ensure stable, noise-free FM reception in both strong and weak signal areas.
- **A. MEMO (AUTO MEMORY)**
  In the Auto Memory mode, the 6 strongest FM, MW or LW stations will be stored automatically.
- **D.A.P. (DIRECT ACCESS PRESETS)**
  D.A.P. allows the storage of FM, MW and LW presets on the same band, eliminating the need to press the BAND button. Up to 6 FM and MW/LW stations can be mixed in the D.A.P. Band.
- **SWITCHING THE FM VOLUME**
- **ETR/PLL DIGITAL FREQUENCY SYNTHESIZER**
- **LITETOUCH™ 30-STATION PRESETS**
  FM1: 6, FM2: 6, MW: 6, LW: 6, D.A.P.: 6
- **ELAPSED TIME DISPLAY**
- **S.T.M. (SOURCE TONE MEMORY)**
  Automatically memorizes the settings of your Bass/Treble Controls for each source.
- **SELECTABLE FADER**
  This system allows you to select either the pre-amp or power amp fader mode. The pre-amp fader controls the signal level in the pre-amp stage for two amplifiers, and the power amp fader balances the front and rear speaker sound in a four-speaker system using the unit's internal power.

CONTROLS AND INDICATORS





① **SDK Switch**
② **D.A.P. (Direct Access Presets) Button**
③ **MONO/DX (Local/Distance) Switch**
④ **Disc Slot**
⑤ **M.S. · CD DowN (⏮) Switch**

⑥ **M.S. · CD UP (⏭) Switch**
⑦ **Eject Button**
⑧ **TUNE/DISP Switch**
⑨ **BAND/TUNER Button**
⑩ **DISC Play/Pause Button (▶/❙❙)**

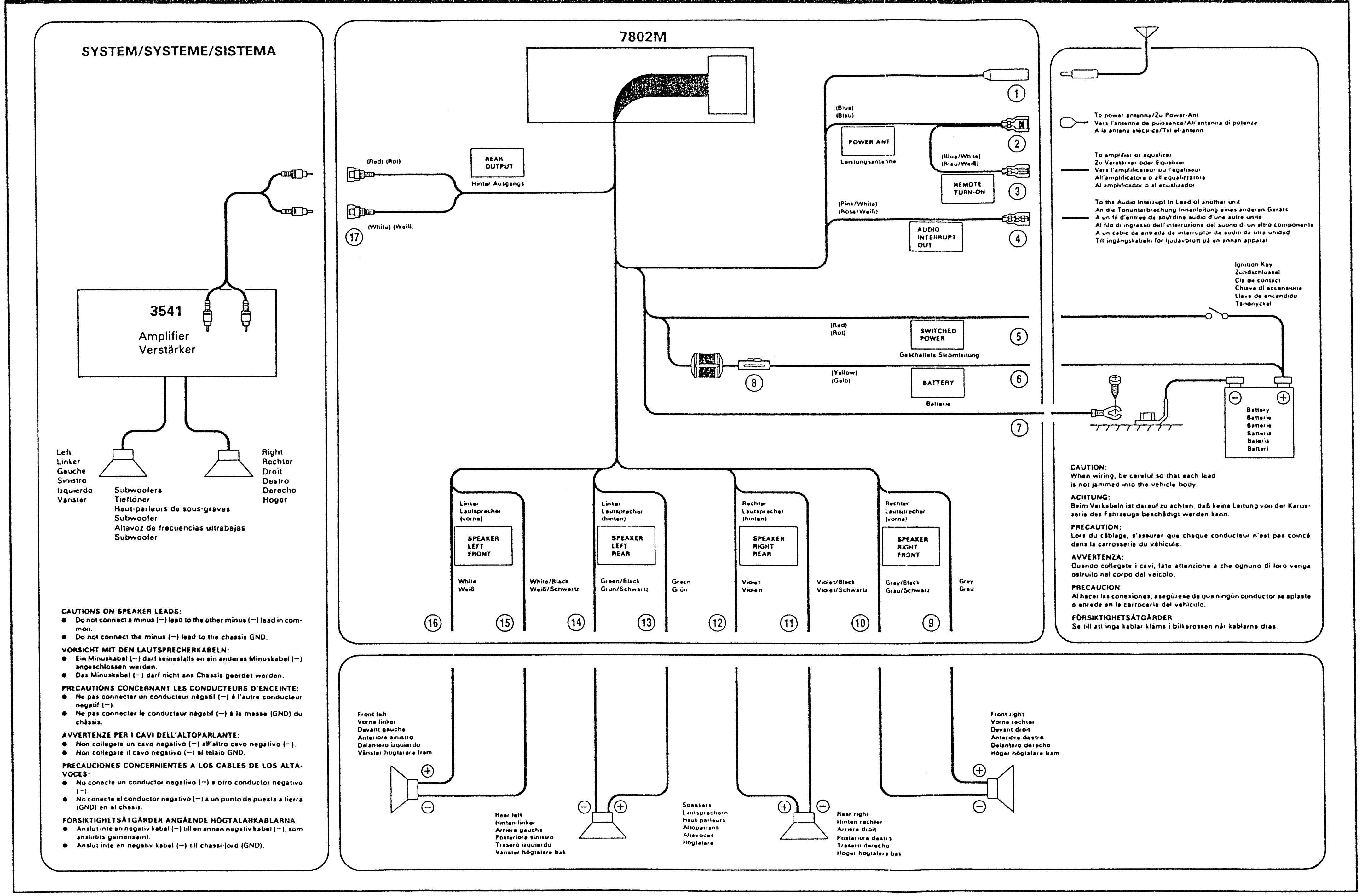
⑪ **SCAN Button**
⑫ **REPEAT Button**
⑬ **Station Preset Buttons**
⑭ **M.I.X. Button**
⑮ **Band Indicator**

⑯ **Digital Display**
⑰ **SDK Indicator**
⑱ **MONO Indicator**
⑲ **STereo Indicator**
⑳ **Preset Address Indicators**

㉑ **REPEAT Indicator**
㉒ **DX (Distance) Indicator**
㉓ **SK Indicator**
㉔ **M.I.X. Indicator**
㉕ **DISC Indicator**

㉖ **Auto MEMOry Indicator**
㉗ **SEEK Indicator**
㉘ **D.A.P. Indicator**
㉙ **POWER Button/Audio MODE Select Switch (PUSH)**
㉚ **Reset Switch**

CONNECTIONS


SYSTEM/SYSTEME/SISTEMA
3541
Amplifier
Verstärker
Left
Linker
Gauche
Sinistro
Izquierdo
Vänster
Subwoofers
Tieftöner
Haut-parleurs de sous-graves
Subwoofer
Altavoz de frecuencias ultrabajas
Subwoofer
Right
Rechter
Droit
Destro
Derecho
Höger
7802M
(Red) (Rot)
(White) (Weiß)
⑰
REAR OUTPUT
Hinter Ausgangs
①
(Blue)
(Blau)
POWER ANT
Leistungsantenne
②
(Blue/White)
(Blau/Weiß)
REMOTE TURN-ON
③
(Pink/White)
(Rosa/Weiß)
AUDIO INTERRUPT OUT
④
(Red)
(Rot)
SWITCHED POWER
Geschaltete Stromleitung
⑤
⑧
(Yellow)
(Gelb)
BATTERY
Batterie
⑥
⑦
Linker Lautsprecher (vorne)
SPEAKER LEFT FRONT
Linker Lautsprecher (hinten)
SPEAKER LEFT REAR
Rechter Lautsprecher (hinten)
SPEAKER RIGHT REAR
Rechter Lautsprecher (vorne)
SPEAKER RIGHT FRONT
White
Weiß
White/Black
Weiß/Schwartz
Green/Black
Grun/Schwartz
Green
Grün
Violet
Violett
Violet/Black
Violet/Schwartz
Grey/Black
Grau/Schwarz
Grey
Grau
⑯
⑮
⑭
⑬
⑫
⑪
⑩
⑨
To power antenna/Zu Power-Ant
Vers l'antenne de puissance/All'antenna di potenza
A la antena eléctrica/Till el-antenn
To amplifier or equalizer
Zu Verstärker oder Equalizer
Vers l'amplificateur ou l'égaliseur
All'amplificatore o all'equalizzatore
Al amplificador o al ecualizador
To the Audio Interrupt In Lead of another unit
An die Tonunterbrechung Innenleitung eines anderen Gerats
A un fil d'entrée de sourdine audio d'une autre unité
Al filo di ingresso dell'interruzione del suono di un altro componente
A un cable de entrada de interruptor de audio de otra unidad
Till ingångskabeln för ljudavbrott på en annan apparat
Ignition Key
Zundschlussel
Cle de contact
Chiave di accensione
Llave de encendido
Tändnyckel
Battery
Batterie
Batterie
Batteria
Batería
Batteri
Front left
Vorne linker
Devant gauche
Anteriore sinistro
Delantero izquierdo
Vänster högtarare fram
Rear left
Hinten linker
Arrière gauche
Posteriore sinistro
Trasero izquierdo
Vänster högtalare bak
Speakers
Lautsprechern
Haut-parleurs
Altoparlanti
Altavoces
Högtalare
Rear right
Hinten rechter
Arrière droit
Posteriore destro
Trasero derecho
Höger högtalare bak
Front right
Vorne rechter
Devant droit
Anteriore destro
Delantero derecho
Höger högtalare fram

CAUTIONS ON SPEAKER LEADS:

- Do not connect a minus (−) lead to the other minus (−) lead in common.
- Do not connect the minus (−) lead to the chassis GND.

VORSICHT MIT DEN LAUTSPRECHERKABELN:

- Ein Minuskabel (−) darf keinesfalls an ein anderes Minuskabel (−) angeschlossen werden.
- Das Minuskabel (−) darf nicht ans Chassis geerdet werden.

PRECAUTIONS CONCERNANT LES CONDUCTEURS D'ENCEINTE:

- Ne pas connecter un conducteur négatif (−) à l'autre conducteur négatif (−).
- Ne pas connecter le conducteur négatif (−) à la masse (GND) du châssis.

AVVERTENZE PER I CAVI DELL'ALTOPARLANTE:

- Non collegate un cavo negativo (−) all'altro cavo negativo (−).
- Non collegate il cavo negativo (−) al telaio GND.

PRECAUCIONES CONCERNIENTES A LOS CABLES DE LOS ALTAVOCES:

- No conecte un conductor negativo (−) a otro conductor negativo (−).
- No conecte el conductor negativo (−) a un punto de puesta a tierra (GND) en el chasis.

FÖRSIKTIGHETSÅTGÄRDER ANGÅENDE HÖGTALARKABLARNA:

- Anslut inte en negativ kabel (−) till en annan negativ kabel (−), som anslutits gemensamt.
- Anslut inte en negativ kabel (−) till chassi-jord (GND).

CAUTION:
When wiring, be careful so that each lead is not jammed into the vehicle body.

ACHTUNG:
Beim Verkabeln ist darauf zu achten, daß keine Leitung von der Karosserie des Fahrzeugs beschädigt werden kann.

PRECAUTION:
Lors du câblage, s'assurer que chaque conducteur n'est pas coincé dans la carrosserie du véhicule.

AVVERTENZA:
Quando collegate i cavi, fate attenzione a che ognuno di loro venga ostruito nel corpo del veicolo.

PRECAUCION
Al hacer las conexiones, asegúrese de que ningún conductor se aplaste o enrede en la carrocería del vehículo.

FÖRSIKTIGHETSÅTGÄRDER
Se till att inga kablar kläms i bilkarossen när kablarna dras.

① **Antenna Receptacle**

② **Power Antenna Lead (Blue)**
When loaded with a power antenna, connect to the +B terminal of the power antenna.

③ **Remote Turn-On Lead (Blue/White)**
Connect this lead to the remote turn-on lead of your amplifier or signal processor.

④ **Audio Interrupt Out Lead (Pink/White)**

⑤ **Switched Power Lead (Ignition) (Red)**
Connect this lead to an open terminal on the vehicle's fuse box or another unused power source which provides (+)12V only when the ignition is turned on or in the accessory position.

⑥ **Battery Lead (Yellow)**
Connect this lead to the positive (+) post of the vehicle's battery.

⑦ **Ground Lead**
Connect this lead to a good chassis ground on the vehicle. Make sure the connection is made to bare metal and is securely fastened using the sheet metal screw provided.

⑧ **Fuse Holder (5A)**

⑨ **Right Front Speaker Output Lead (Grey)**

⑩ **Right Front Speaker Output Lead (Grey/Black)**

⑪ **Right Rear Speaker Output Lead (Violet/Black)**

⑫ **Right Rear Speaker Output Lead (Violet)**

⑬ **Left Rear Speaker Output Lead (Green)**

⑭ **Left Rear Speaker Output Lead (Green/Black)**

⑮ **Left Front Speaker Output Lead (White/Black)**

⑯ **Left Front Speaker Output Lead (White)**

⑰ **Rear Output RCA Connectors**
RED is right and WHITE is left.

Indication example	Turn the Audio MODE Select switch.	
	Left	Right
VOL adjust. (—oo — 0) - 26	Volume decrease - oo	Volume increase 0
TRE adjust. (−7 — +7) TR- 4	Treble decrease TR- 7	Treble increase TR+7
BAS adjust. (−7 — +7) BS- 3	Bass decrease BS- 7	Bass increase BS+7
BAL adjust. (— — 8) B- - -	Volume increase of left speaker BL 8	Volume increase of right speaker BR 8
FAD adjust. (— — 8) F- - -	Volume increase of rear speaker FR 8	Volume increase of front speaker FF 8

Switching the FM Volume

Use this function if the difference in volume is great when switching between a tape and the FM radio.

1. Press the TUNE switch ⑧ for 2 seconds.
2. Press the Preset No. 1 button ⑬ to switch the display between "F-HI" and "F-LO". The FM volume can be set to one of two positions, high or low. Set the position according to the broadcast station.

F-HI ←→ F-LO

Four preset volume levels can be set for traffic information reception in the SDK mode.

1. Press the TUNE switch ⑧ for 2 seconds.
2. Press the Preset No. 2 button ⑬ to switch "LV-4" to LV-1". Select the desired level.

Two ways are selectable when traffic information reception signal is weak in the SDK mode.

1. Press the TUNE switch ⑧ for 2 seconds.
2. Press the Preset No. 3 button ⑬ to switch the display between "ALA" and "SRCH". When the ALA is selected, alarm goes off and when the SRCH is selected, other broadcast station is sought automatically.

● BASIC OPERATION

Initial System Start

When operating the system for the first time after installation or after the vehicle's battery has been disconnected and reconnected, set the volume level to its minimum, then carefully press the Reset switch ㉚ with a sharp pencil or any other pointed object.

How to adjust the volume and tone

1. Turn on the system by pushing the Power On/Off button ㉙ or any other button (other than Eject ⑦ or Reset ㉚).
2. Press the Audio MODE Select switch ㉙ to select each adjusting mode.
   VOL → TRE → BAS → BAL → FAD → VOL · · · ·
   Everytime this switch is pressed, the mode changes. Each mode indicator is then On. The mode indicator changes as each mode is selected.
3. Once the desired mode appears in the display, rotate the Audio MODE Select switch to make your adjustment. The display will return to the previous mode indication after five seconds.

Power Off

Press the POWER button ㉙ for more than two seconds to turn the unit off.

Cautions During CD Playback

Playing a disc while driving on a very bumpy road may result in skipping, but this will not scratch the disc or damage the player.

NOTES:

1. Your player accepts only one disc at a time for playback. Do not attempt to load more than one disc.
2. Make sure the label side is facing up when you insert the disc. Your player will automatically eject any disc that is inserted incorrectly. If the player continues to eject a correctly inserted disc, push the Reset switch ㉚ with a pointed object such as a sharp pencil.
3. You can play 3-inch (8 cm) CDs in this player without using an adaptor ring.
4. Make sure your discs are labeled as shown below:

COMPACT
disc
DIGITAL AUDIO

5. Playing a disc while driving on a very bumpy road may result in skipping, but this will not scratch the disc or damage the player.

● RADIO OPERATION

If the unit is not in the Radio mode, press the BAND/TUNER button ⑨.

Tuning Band Selection

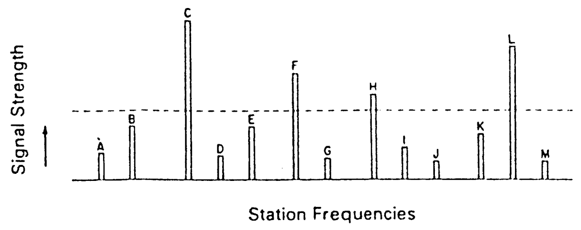
Press the BAND button ⑨ to select the desired tuning band. The Band indicator ⑮ shows your selection.

Local/Distance (DX) Sensitivity Switching for FM, MW and LW

You can select the radio SEEK sensitivity (local or distance (DX)) by pressing the DX switch ③ for more than two seconds.

In the distance mode, with DX indication ㉒, the radio tunes in both strong and weak stations (all stations from A to M in the illustration).

In the local mode, with no DX indication ㉒, the radio tunes in only strong stations (stations C, F, H and L in the illustration below).



FM Stereo/Monaural Switching

You can select between the Auto Switching or Monaural only for FM reception by pressing the MONO switch ③. In the Auto Switching mode, you can receive stereo broadcasts in stereo and monaural broadcasts in MONO. The STereo ⑲ or MONO indicator ⑱ shows you which one is being received. In the monaural mode, you will receive the broadcast in monaural only, even if the broadcast is in stereo. The monaural only mode quiets the noisy stereo signal of weaker broadcasts. The STereo indicator will not appear while the Monaural mode is selected.

Manual Tuning

1. Press the TUNE switch ⑧ until the SEEK ㉗ and A. MEMO ㉖ indicators disappear in the display.
2. To select the tuning band, press the BAND button ⑨. The Band indicator ⑮ shows your selection.
3. To tune to higher frequencies, press the M.S. · CD switch on the right (UP) ⑥. To tune to lower frequencies, press this same switch on the left (DowN) ⑤.

Auto SEEK Tuning

1. Press the TUNE switch ⑧ until the SEEK indicator ㉗ appears in the display.
2. Select the tuning band with the BAND button ⑨.
3. Press the UP ⑥ or DowN ⑤ switch. The unit automatically tunes to the next higher or lower frequency and locks on that station.

OPERATION

Manual Memory Preset

Follow the instructions below to enter stations into preset memory:

1. Select the tuning band (FM1, FM2, MW, LW) with the BAND button ⑨.
2. Tune in your desired station using Manual or Auto Seek tuning.
3. Press the Preset button number 1 ⑬ for more than two seconds. The matrix display ⑳ will begin to blink. The tuning band (FM1, FM2) can be changed by pressing the BAND button ⑨ if you wish to change bands. Press that preset button again while the display is blinking (within 5 seconds).
4. The frequency you selected will be placed into Preset Memory number 1 and will appear in the display.
   NOTE:
   If a preset memory has already been set in the same address, it will be cleared and the new station will be memorized.
5. Follow steps 2 — 3 for the remaining presets (2 — 6). This procedure should be followed for FM1, FM2, MW and LW.

NOTE:

While setting the memory presets you can switch back and forth between FM1 and FM2. However, while in this mode you cannot switch back and forth from MW/LW to FM.

Auto Memory Preset

1. Press the TUNE switch ⑧ to light up the A. MEMO indicator ㉖.
2. Select the desired tuning band (FM1, FM2, MW or LW) with the BAND button ⑨.
   NOTE:
   The Auto Memory Preset procedure is allowed in the D.A.P. Mode.
3. Press the UP ⑥ or DN ⑤ switch. The tuner will automatically seek the six strongest stations in the selected band and memorize them in order of their signal strength. These stations are automatically placed in the preset memory with the strongest station in Preset No. 1 and the 6th strongest station in Preset No. 6. When seeking stations, the tuner first seeks in the local tuning mode. If less than 6 stations are memorized, the tuner seeks again in the distance (DX) mode.
4. After finishing the Auto Memory Preset, the tuner goes to the station placed in Preset Memory No. 1. If no stations are memorized, it returns to the original station you were listening to before the Auto Memory Preset procedure began.

Preset Tuning

After the preset stations have been memorized, you can tune in your desired station (within the band displayed) with one touch of a button.

1. Select the tuning band (FM1, FM2, MW or LW) with the BAND button ⑨.
2. Press any one of the Preset buttons ⑬ and the number of that preset will illuminate in the matrix display.
3. The frequency of the station placed in the selected preset location will appear in the display.

D.A.P. (Direct Access Presets)

This feature allows the storage of FM, MW and LW presets on the same band. Press the D.A.P. button ② to light up the D.A.P. indicator ㉘. To program stations into the D.A.P. band, follow steps 1 — 3 as described in the Manual Memory Preset section.

Accessing the D.A.P. Presets

1. Press the D.A.P. button ②. The D.A.P. indicator ㉘ will illuminate in the display.
2. Press one of the preset buttons ⑬.
3. The frequency of the station placed in the selected D.A.P. location will appear in the display.

OPERATION

Traffic Information Receiving

This model is equipped with traffic information receiving apparatus to be used in West Germany where the traffic information is broadcast in FM. The following is how to use this unit to receive traffic information broadcasting.

● Radio Mode

1. Select FM position.
2. Depress the SDK switch ① and tune to a station. If the station is a traffic information station, the SK indicator ㉓ will glow and show the reception of a broadcast from a traffic information station.
   NOTE: SK Indicator
   When SK signal is received irrespective of the SDK switch position, the SK indicator will illuminate.
3. In the SDK mode, stations other than traffic information stations are muted and cut out. Therefore, it is easy to select a traffic information station.
4. As the signal of the tuned traffic information station becomes weak, the SK indicator will extinguish. Then after the lapse of 25 seconds, a rhythmical alarm will sound to urge retuning to another stronger station. If the reception of further traffic information is required, tune in the desired traffic information station. When received, the alarm will stop and the SK indicator illuminates. Since the alarm will continue if no signals from any other traffic stations can be received, release the SDK switch for reception of normal broadcasting.
5. Even if the Volume control ㉙ is set to the minimum position, the volume of the traffic information will be automatically adjusted to the level preset by the special volume control on the left side of the unit. After the message, the sound volume returns to the previously adjusted level.
6. If traffic information reception is no longer necessary, release the SDK switch for normal radio reception.

NOTES:

- When the SDK switch is pressed and there is no SK signal, ALARM will sound after the lapse of 25 seconds. Press the SDK switch again to stop it.
- When the SEEK operation is carried out with the SDK switch turned on, the SEEK operation stops at a traffic station only.
- The A. MEMO operation with the SDK switch turned on: only the traffic stations will be memorized.
- This unit has a special volume control on the left side of the unit for adjusting the volume level for SDK reception and the alarm which will sound when there is no SK signal in the SDK mode. Set the Volume control ㉙ to the minimum level position, and adjust the special volume control on the left side of the unit to your desired level with a screwdriver.

● CD Mode

1. When the unit is playing a CD with the SDK switch pushed in and tuned to a traffic information station, the CD play is interrupted and changed to FM radio if the pre-tuned station begins a traffic information message. When the message is over, the unit reverts to CD play automatically.
2. Only when the SDK switch is on, the SK display will appear if a traffic information station is being tuned.
3. When your receiver cannot receive a traffic information station after a reception of the traffic information station with the SDK switch on, the receiver automatically starts a SEEK operation after 25 seconds, and receives another station.
4. When the TUNE switch is pushed with the SDK switch turned on, the radio display will appear for 5 seconds with the sound remained the same condition to allow confirmation for the station being received. Under this condition, tuning operation can be made also.

OPERATION

● CD OPERATION

If the unit is not in the CD mode, press the DISC button ⑩.

Load

1. Insert a disc into the disc slot ④. When the disc is halfway in, the power loading system will pull the disc in and guide it into the play position.
2. If the disc is left at least halfway in, press the DISC button ⑩ or press the disc edge lightly to move it forward. "LOAd" will show in the display while loading.
3. When the unit is in the CD mode, the Digital Display ⑯ shows " T-00 " for a second while the data on the disc is read.
4. When a disc is loaded or ejected while the unit is in the tuner mode, it will automatically switch to the CD mode.

Track/Elapsed Time Display Switching

Press the DISP switch ⑧ for the Track Number being played and the Elapsed Time for the current track to be shown in the Digital Display ⑯. See below.

T-03	8'35
Track Mode	Time Mode

Normal Play (Repeat All)

1. Load the Disc.
2. The Digital Display ⑯ will show " T-00 " for a second, then " T-01 " will be displayed and the first track on the disc will begin playback.
3. After the last track on the disc is played back, the pickup will return to the beginning of the disc and begin playback from that point.

Disc Eject and Reload

Press the Eject button ⑦. The disc will come halfway out. If the eject status is maintained more than 15 seconds in case of 5-inch disc the self loading system will be automatically actuated and the disc will be reloaded into the mechanism and the player will be set to PAUSE mode.

PAU

Press the DISC ▶/II button ⑩ to resume playback. When using 3-inch discs, the eject status continues until the disc is pushed back in.

Pause

Press the DISC ▶/II button ⑩ to hold playback temporarily. The playback stops, but the disc remains inside the player. To resume playback, press the DISC ▶/II button ⑩ again.

OPERATION

Music Sensor (Skip)

This feature allows you to access the beginning of your musical track selection simply and quickly. It is functional in the play or pause mode. The Digital Display ⑯ shows the track number you have selected.

- To advance to the next track on the disc, press the ⏭ side of the M.S. · CD switch ⑥.
  1. Playback stops, the pickup moves up to the beginning of the next track. That track number appears in the Digital Display ⑯.
  2. Playback begins immediately.
  3. If you wish to access a track further ahead on the disc, continue pressing the ⏭ side of the M.S. · CD switch ⑥ until you reach the track of your choice.

- To replay the track that is currently playing, press the ⏮ side of the M.S. · CD switch ⑤.
  1. Playback stops, the pickup moves back to the beginning of the current track. The track number in the Digital Display ⑯ remains the same.
  2. Playback begins immediately from the beginning of the track.
  3. If you access a track further towards the beginning of the disc, continue pressing the ⏮ side of the M.S. · CD switch ⑤ until you reach the track of your choice.

Fast Forward/Fast Backward

The Fast Forward/Fast Backward feature works in both play and pause modes.

1. Press either the M.S. · CD ⏭ ⑥ or the M.S. · CD ⏮ ⑤ switch and hold it for more than 2 seconds.
2. To move the pickup forward rapidly, hold down the M.S. · CD UP ⏭ switch ⑥.
3. To move the pickup backward rapidly, hold down the M.S. · CD DN ⏮ switch ⑤.
4. When the pickup reaches the end of the disc, it automatically returns to the beginning. Playback will then start from the beginning of the disc.

REPEAT (One)

This feature allows you to continuously playback a single track.

1. Press the REPEAT button ⑫.
2. The musical track shown in the Digital Display ⑯ will be played back repeatedly.
3. To defeat the Repeat function, press the REPEAT button a second time.

SCAN

Press this button and the player will playback the first 10 seconds of each track in succession. This function is useful in searching for a specific program ahead on a disc. Press the SCAN button ⑪ a second time to deactivate this function.

M.I.X. (Random Play)

Depress the M.I.X. button ⑭ while in the CD mode and the musical tracks will be played back in a random sequence generated by the microprocessor. After all the tracks on the disc have been played back once, the player will begin a new random sequence.

MODE SELECTION IN A COMBINED SYSTEM

When the 7802M is connected to another Alpine head unit, follow the procedures below for changing modes of operation between head units.

1. If combined with an Alpine DAT player with an independent tuner mode select button, any playback mode can be selected by pressing the desired function switch on any unit; i.e.; CD or tuner, etc. CD play can be activated by inserting a disc.
2. If combined with another source unit that does not have an independent tuner mode select switch, the interaction of the 7802M will depend on the circuitry of that unit. For example, if the other unit does not provide a "pause out" signal, you may have to press the Pause button ⑩ on the 7802M when switching from CD play to a function of the other unit.

Adjustment Locations

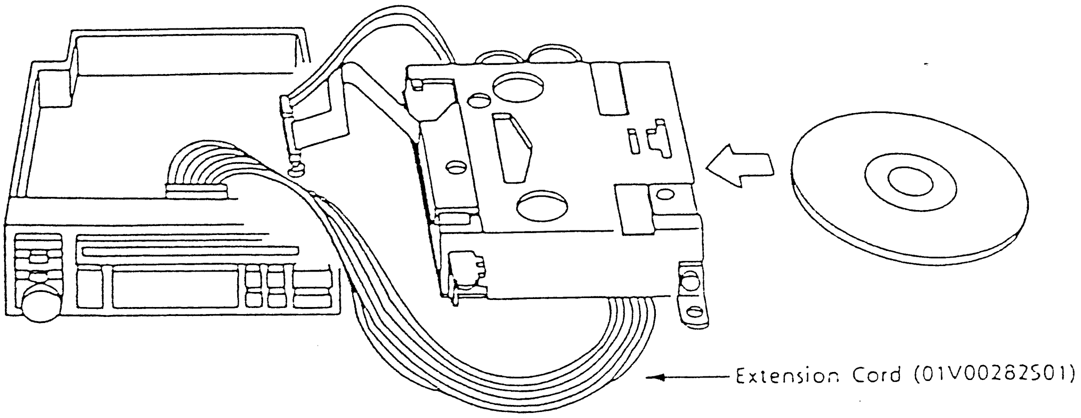

Extension Cord (01V00282S01)

Figure 1

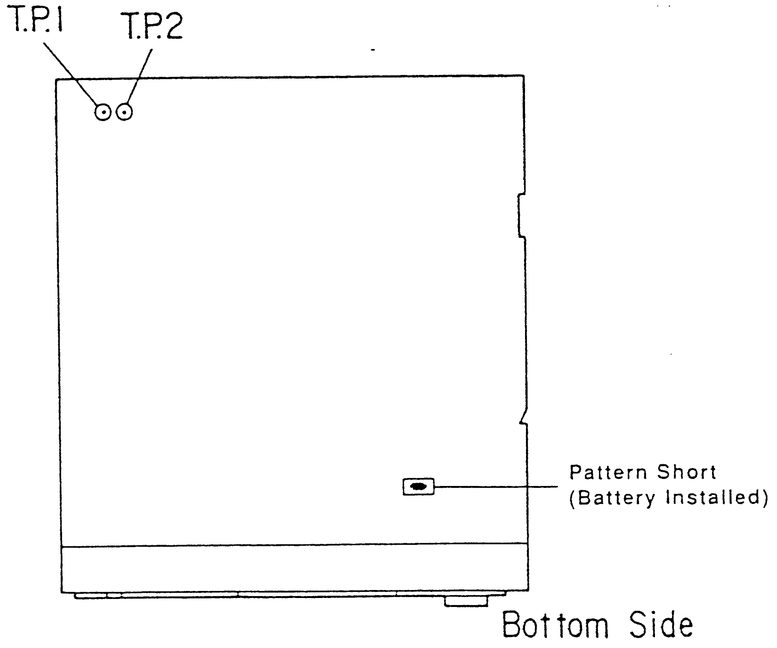

T.P.1
T.P.2
Pattern Short
(Battery Installed)
Bottom Side

Figure 2

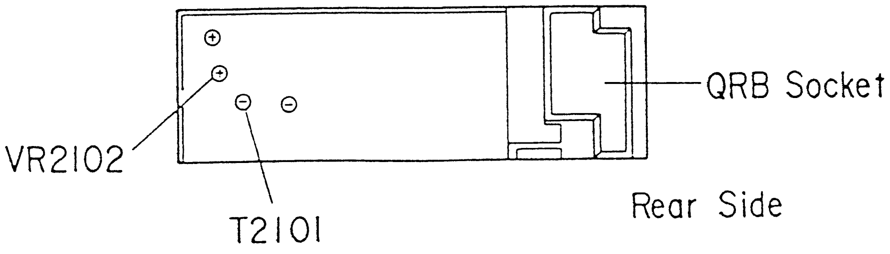
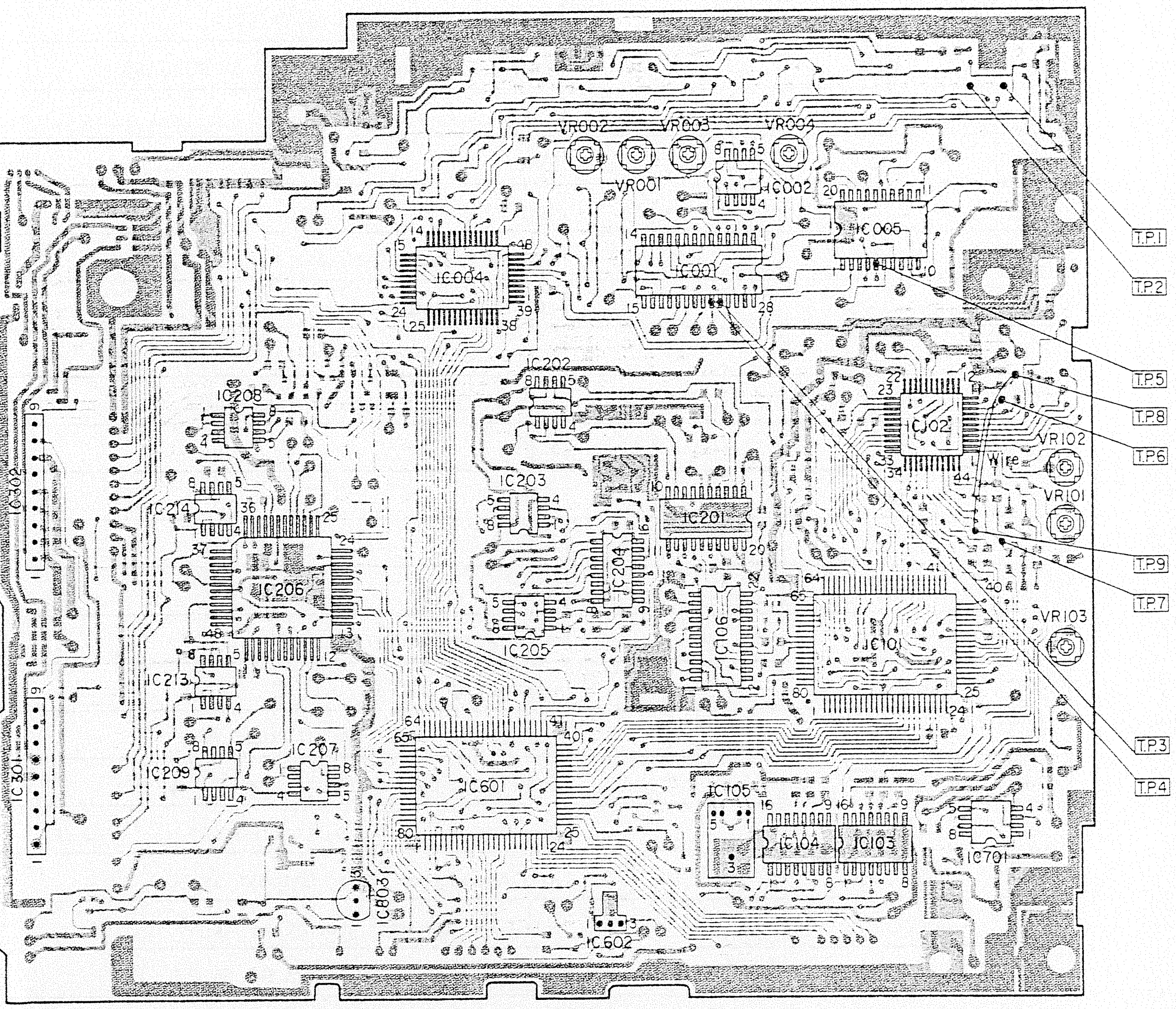

VR2102
T2101
QRB Socket
Rear Side

Figure 3


VR002
VR003
VR004
VR001
IC002
IC005
IC004
IC001
T.P.1
T.P.2
T.P.5
IC202
IC208
IC102
T.P.8
T.P.6
VR102
Wire
VR101
IC203
IC201
IC214
IC206
IC204
IC106
IC101
T.P.9
T.P.7
VR103
IC205
IC302
IC213
IC207
IC209
IC601
IC105
IC104
IC103
IC701
T.P.3
T.P.4
IC301
IC803
IC602

Main P.C. Board (Component Side)

Discription of IC Terminal

Note : The parts is not mentioned, refer to the Service Manual 7803M (68P32124W02).

35139W01 (IC601)

No.	Symbol	I/O	Terminal Description
1	GND	—	GND.
2	AV$_{REF}$	I	Reference voltage input for A/D converter. (V-OUT 5V)
3	V$_{DD}$	—	Power supply terminal. (BATT. 5V)
4	V$_{DD}$	—	Power supply terminal. (BATT. 5V)
5	$\overline{\text{V-OUT}}$	O	Output Supply to AV$_{REF}$. (BATT. 5V PULL UP)
6	GND	—	GND.
7	GND	—	GND.
8	GND	—	GND.
9	LCD-INH	O	LCD INH Output. (P-cH, NcH Pushpull Output)
10	LCD-DATA	O	LCD DATA Output. (P-cH, NcH Pushpull Output)
11	LCD-CLOCK	O	LCD CLOCK Output. (P-cH, NcH Pushpull Output)
12	LCD-CE	O	LCD CE Output. (P-cH, NcH Pushpull Output)
13	NC	—	N.C.
14	NC	—	N.C.
15	NC	—	N.C.
16	NC	—	N.C.
17	AREA 1	I	Area set up. (V-OUT PULL UP)
18	AREA 2	I	Area set up. (V-OUT PULL UP)
19	AREA 3	I	CLOCK, SDK set up. (V-OUT PULL UP)
20	$\overline{\text{LIMIT-SW}}$	I	LIMIT SW. Input. (ACTIVE LO, V-OUT PULL UP)
21	8-END	I	8cm DISC END Detector. (Load Cont SW. 5V PULL UP)
22	RELOAD	I	RELOAD Detector. (Load Cont SW. 5V PULL UP)
23	EJECT-END	I	EJECT END Detector. (Load Cont SW. 5V PULL UP)
24	DISC-IN	I	DISC IN Detector. (Load Cont SW. 5V PULL UP)
25	LOAD-BWD	O	LOADING MOTOR BWD Driving output.
26	LOAD-FWD	O	LOADING MOTOR FWD Driving output.
27	LOAD-CONT	O	DISC Detector Power supply control.
28	V-CONT	O	Power supply control to CD.
29	$\overline{\text{PULL UP SW}}$	O	Power supply control to μ-COM PULL UP. (BATT. 5V PULL UP)
30	F-CONT	O	FOCUS SERVO gain switching terminal. (SERVO 5V PULL UP)
31	FM LEVEL	O	FM AUDIO LEVEL switching terminal. (Hi SW. 5V PULL UP)

No.	Symbol	I/O	Terminal Description
32	$\overline{\text{CD-RESET}}$	O	Signal management LSI Digital Filter. (SERVO 5V PULL UP)
33	GND	—	GND.
34	BUS3	I/O	Command data 3 to servo controller.
35	BUS2	I/O	Command data 2 to servo controller.
36	BUS1	I/O	Command data 1 to servo controller.
37	BUS0	I/O	Command data 0 to servo controller.
38	CCE	O	CE Output to servo controller.
39	BUCK	O	CLOCK Output to servo controller.
40	LOCK	O	LOCK status input terminal.
41	$\overline{\text{CAM-END}}$	O	CAM END SW. Detector. (V-OUT 5V PULL UP)
42	SOLENOID	O	Clamp solenoid drive output.
43	$\overline{\text{A-MUTE}}$	O	Audio mute output.
44	$\overline{\text{CD}}$/TUNER	O	CD/TUNER AUDIO switching output.
45	ALARM	O	SDK ALARM output. (500Hz)
46	DTS-START	I	DTS START Input.
47	A-HOLD	I	ACC ON/OFF Detector.
48	B-HOLD	I	Coercive standby Detector.
49	DTS-MUTE	I	DTS MUTE Input.
50	STS	I	DTS STATUS Input.
51	CMD	O	DTS COMMAND Output. (V-OUT PULL UP)
52	CLOCK	I	DTS CLOCK Input. (V-OUT PULL UP)
53	GND	—	GND.
54	GND	—	GND.
55	GND	—	GND.
56	NC	—	N.C.
57	GND	—	GND.
58	X1	I	System clock input. (4.19MHz)
59	X2	O	System clock output.
60	$\overline{\text{RESET}}$	I	System reset input.
61	GND	—	GND.
62	$\overline{\text{TP}}$ (GND)	—	GND.
63	$\overline{\text{IN-PAUSE}}$	I	Mutual reset, pause input. (V-OUT PULL UP)
64	$\overline{\text{IN-INT}}$	I	Mutual reset, interrupt input. (SW. 5V PULL UP)

No.	Symbol	I/O	Terminal Description
65	$\overline{\text{SDK-TONE}}$	O	Multiplexor switching output. (ACTIVE LO, SW. 5V PULL UP)
66	DTS-CE	O	DTS CE Output. (V-OUT PULL UP)
67	O-INT	O	AUDIO INTERRUPT Output. (SW. 5V PULL UP)
68	O-REM	O	Mutual reset, Out remote Output. (SW. 5V PULL UP)
69	POWER-ON	O	POWER ON Output. (SW. 5V PULL UP)
70	EV-INH	O	Electronic Volume INH output. (SW. 5V PULL UP)
71	EV-DATA	O	Electronic Volume DATA output. (SW. 5V PULL UP)
72	EV-CLOCK	O	Electronic Volume CLOCK output. (SW. 5V PULL UP)
73	GND	—	GND.
74	ENCOD-DOWN	I	Encoder (DOWN) input. (SW. 5V PULL UP)
75	ENCOD-UP	I	Encoder (UP) input. (SW. 5V PULL UP)
76	GND	—	GND.
77	T-SENSE	I	Temperature senser input. (POWER ON 5V PULL UP)
78	KEY-A/D0	I	KEY input. (V-OUT PULL UP)
79	KEY-A/D1	I	KEY input. (V-OUT PULL UP)
80	KEY-A/D2	I	KEY input. (V-OUT PULL UP)

Operation Check

Note : For details on operation, refer to Owner's Manual.

1. Radio Operations

(1) Push the Encoder Rotary Volume more than 2 sec. .... The set should be turned off.
To be changed in order of TRE→BAS→BAL→FAD→VOL, each time the Encoder Rotary Volume is pushed.
(2) To be changed in order of FM1→FM2→MW or LW, each time the **BAND** key is pushed.
(3) To be changed in order of SEEK→A.MEMO→Manual SEEK, each time the **TUNE** key is pushed.
(4) Check SEEK and Manual SEEK operations using **UP/DN** keys.
(5) Push **D.A.P.** key. .... **D.A.P.** indicator should be turned on.
FM and MW or LW can be memorized at random.
(6) Check Preset status with keys 1 to 6.
(7) Push **MONO/DX** key. .... **MONO** indicator should be turned on.
Push **MONO/DX** Key more than 2 sec. .... **DX** indicator should be turned on.
(8) Check Auto Memory operation.
(9) **SDK** key on .... **SDK** indicator should be turned on.
(10) Check Balance operation.
(11) Check Fader operation.

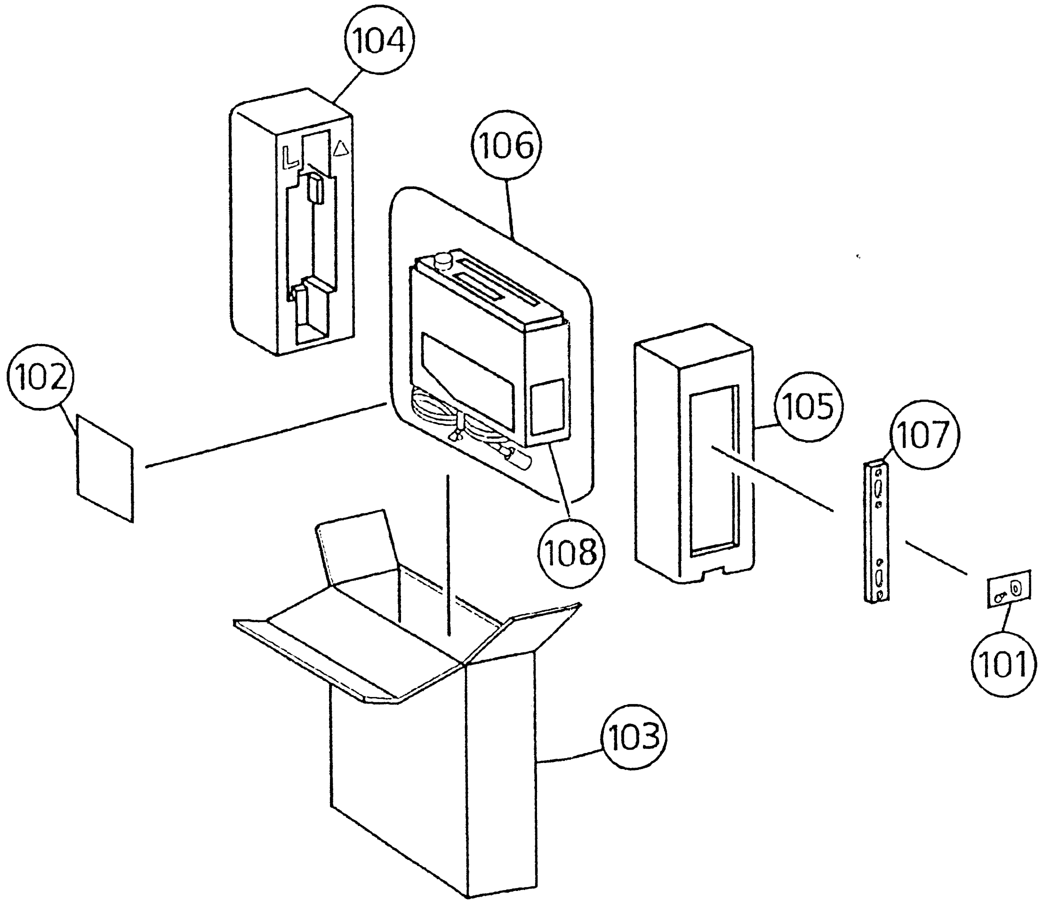
2. CD Operations

For CD Operations, refer to the Service Manual 7803M (68P32124W02).

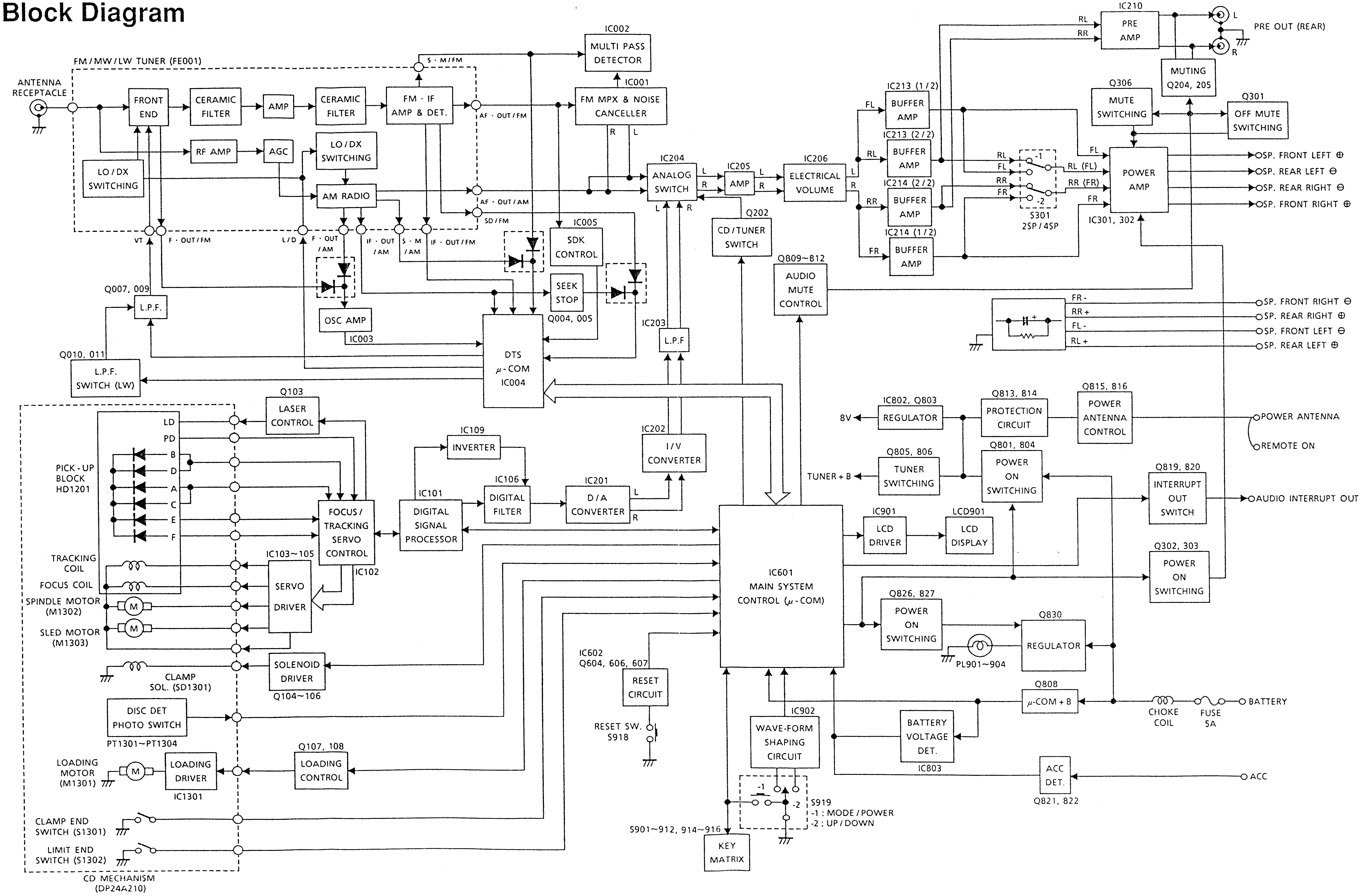
Packing Assembly Parts List

Symbol No.	Part No.	Description
101	01V34100W03	Assy., Kit
101-1	02B47353F01	Nut, Hex. (M5)
101-2	03S63857F59	Screw, Tapping (M4 × 15)
101-3	03A40155F05	Bolt, Hex. (M5 × 14)
101-4	03A40155F01	Bolt, Hex. (M5 × 8)
101-5	07A30081W01	Bracket, QRB (A)
101-6	07A30082W01	Bracket, QRB (B)
101-7	03S44205G34	Screw, Pan (M2.6 × 5)
102	68P32052W62	Owner's, Manual
103	56S30003W68	Carton, Packing (Individual)
104	56D22122W01	Tray, Packing (L)
105	56D22122W02	Tray, Packing (R)
106	56C40990T36	Sack, Polyethylene
107	07B64552F01	Bracket, Strap Receiver
108-1	15D21598W01	Case, Mother
108-2	03A28015W01	Screw, Special (M2.6 × 6.7)
108-3	01T35620W20	Assy., QRB Connector

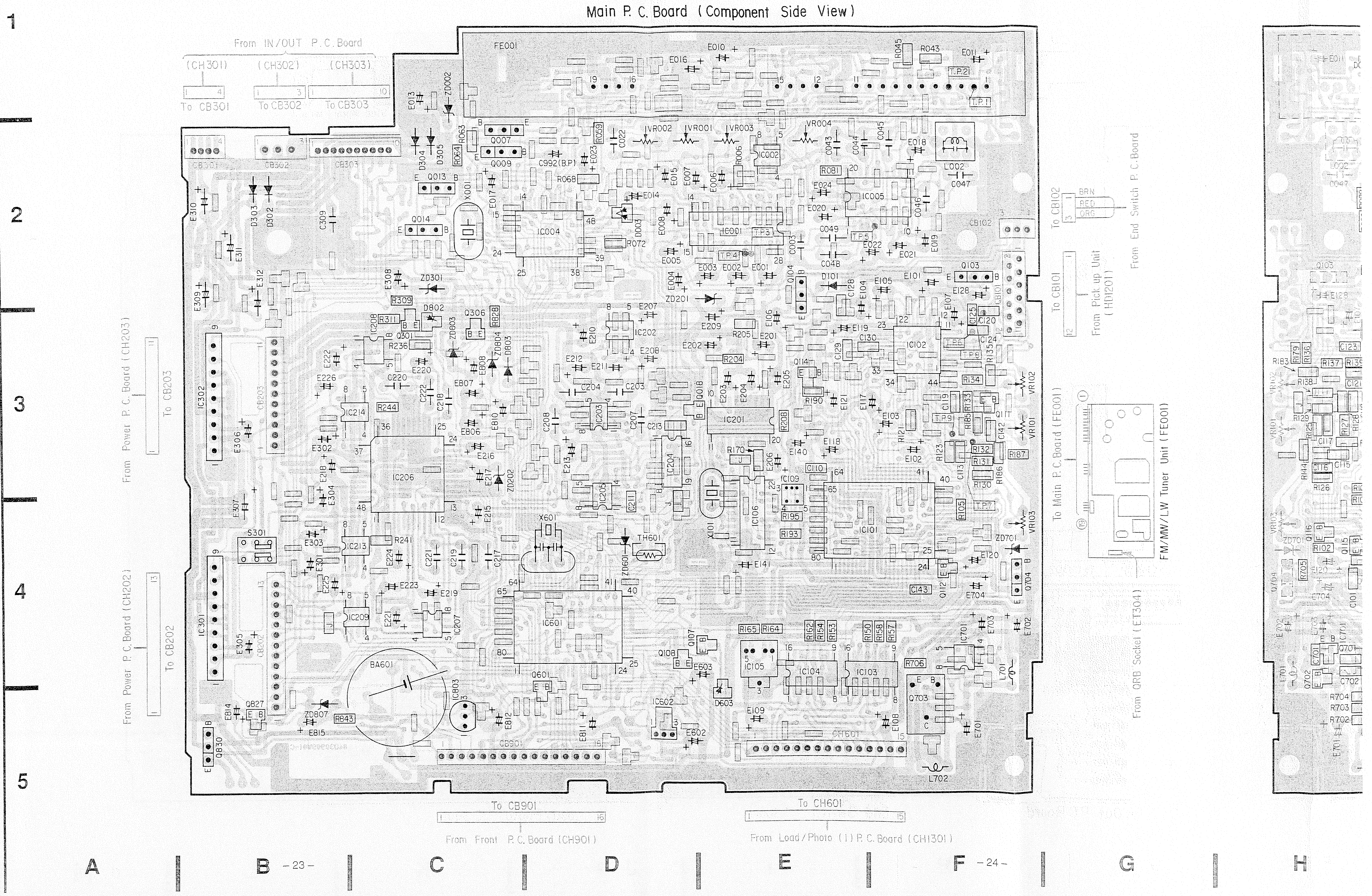
Packing Method View



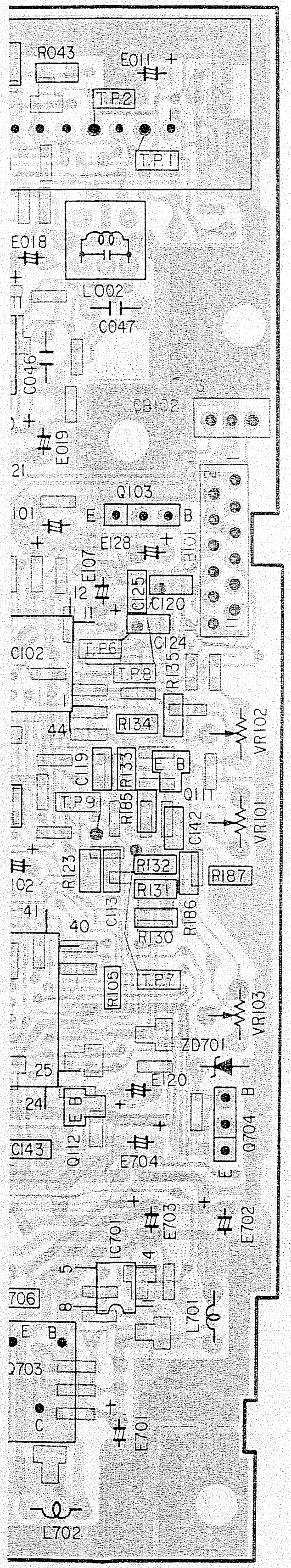
Block Diagram

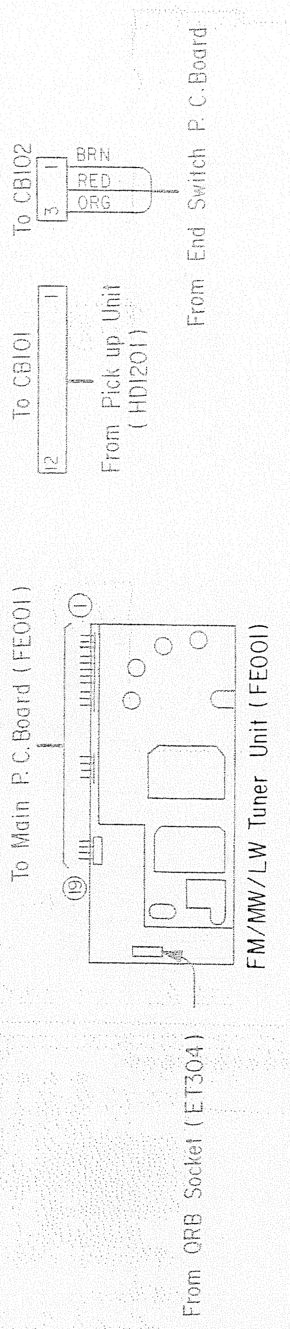

FM / MW / LW TUNER (FE001)
ANTENNA RECEPTACLE
FRONT END
CERAMIC FILTER
AMP
CERAMIC FILTER
FM · IF AMP & DET.
S · M / FM
AF · OUT / FM
RF AMP
AGC
LO / DX SWITCHING
LO / DX SWITCHING
AM RADIO
AF · OUT / AM
SD / FM
VT
F · OUT / FM
L / D
F · OUT / AM
IF · OUT / AM
S · M / AM
IF · OUT / FM
IC002
MULTI PASS DETECTOR
IC001
FM MPX & NOISE CANCELLER
R
L
IC005
SDK CONTROL
SEEK STOP
Q004, 005
OSC AMP
IC003
DTS μ-COM IC004
Q007, 009
L.P.F.
Q010, 011
L.P.F. SWITCH (LW)
IC204
ANALOG SWITCH
IC205
AMP
IC206
ELECTRICAL VOLUME
Q202
CD / TUNER SWITCH
IC203
L.P.F
IC202
I / V CONVERTER
Q809~812
AUDIO MUTE CONTROL
IC210
PRE AMP
RL
RR
L
R
PRE OUT (REAR)
MUTING Q204, 205
Q306
MUTE SWITCHING
Q301
OFF MUTE SWITCHING
IC213 (1/2)
BUFFER AMP
IC213 (2/2)
BUFFER AMP
IC214 (2/2)
BUFFER AMP
IC214 (1/2)
BUFFER AMP
FL
RL
RR
FR
-1
-2
RL (FL)
RR (FR)
S301
2SP / 4SP
POWER AMP
IC301, 302
SP. FRONT LEFT ⊕
SP. REAR LEFT ⊖
SP. REAR RIGHT ⊖
SP. FRONT RIGHT ⊕
FR -
RR +
FL -
RL +
SP. FRONT RIGHT ⊖
SP. REAR RIGHT ⊕
SP. FRONT LEFT ⊖
SP. REAR LEFT ⊕
IC802, Q803
REGULATOR
8V
Q813, 814
PROTECTION CIRCUIT
Q815, 816
POWER ANTENNA CONTROL
POWER ANTENNA
REMOTE ON
Q805, 806
TUNER SWITCHING
TUNER + B
Q801, 804
POWER ON SWITCHING
Q819, 820
INTERRUPT OUT SWITCH
AUDIO INTERRUPT OUT
IC901
LCD DRIVER
LCD901
LCD DISPLAY
Q302, 303
POWER ON SWITCHING
Q826, 827
POWER ON SWITCHING
Q830
REGULATOR
PL901~904
Q808
μ-COM + B
CHOKE COIL
FUSE 5A
BATTERY
BATTERY VOLTAGE DET.
IC803
ACC DET.
Q821, 822
ACC
IC601 MAIN SYSTEM CONTROL (μ-COM)
IC602 Q604, 606, 607
RESET CIRCUIT
RESET SW. S918
IC902
WAVE-FORM SHAPING CIRCUIT
S919
-1 : MODE / POWER
-2 : UP / DOWN
S901~912, 914~916
KEY MATRIX
Q103
LASER CONTROL
IC109
INVERTER
IC106
DIGITAL FILTER
IC201
D / A CONVERTER
IC101
DIGITAL SIGNAL PROCESSOR
FOCUS / TRACKING SERVO CONTROL
IC102
IC103~105
SERVO DRIVER
SOLENOID DRIVER
Q104~106
PICK - UP BLOCK HD1201
LD
PD
B
D
A
C
E
F
TRACKING COIL
FOCUS COIL
SPINDLE MOTOR (M1302)
SLED MOTOR (M1303)
M
CLAMP SOL. (SD1301)
DISC DET PHOTO SWITCH
PT1301~PT1304
LOADING MOTOR (M1301)
LOADING DRIVER
IC1301
Q107, 108
LOADING CONTROL
CLAMP END SWITCH (S1301)
LIMIT END SWITCH (S1302)
CD MECHANISM (DP24A210)

Parts Layout on P.C. Boards and Wiring Diagram (1/2)

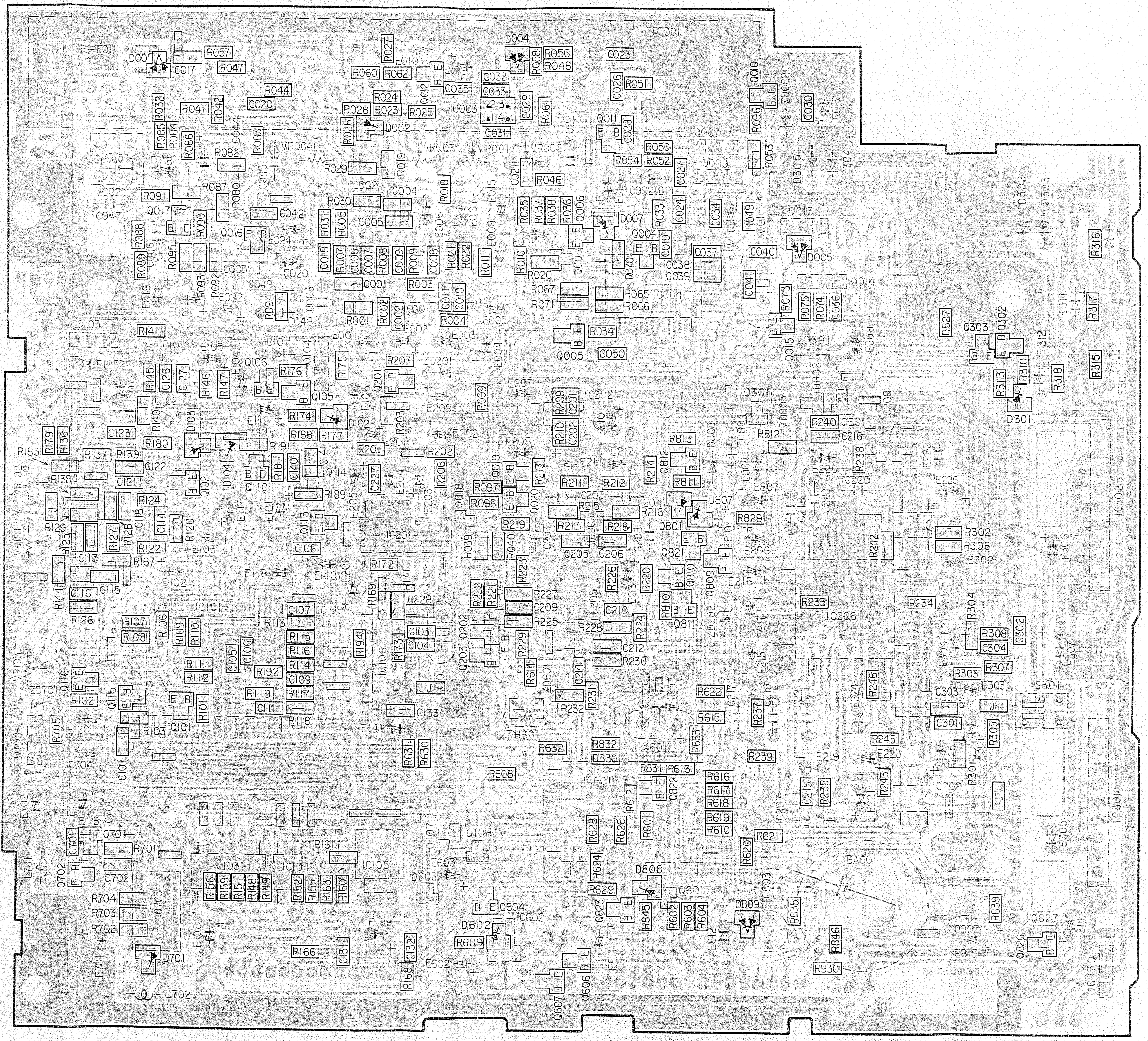

Main P. C. Board (Component Side View)
From IN/OUT P. C. Board
(CH301)
(CH302)
(CH303)
To CB301
To CB302
To CB303
From Power P. C. Board (CH203)
To CB203
From Power P. C. Board (CH202)
To CB202
To CB102
BRN
RED
ORG
From End Switch P. C. Board
To CB101
From Pick up Unit (HD1201)
To Main P. C. Board (FE001)
FM/MW/LW Tuner Unit (FE001)
From QRB Socket (ET304)
To CB901
From Front P. C. Board (CH901)
To CH601
From Load/Photo (1) P. C. Board (CH1301)
FE001
IC001
IC002
IC004
IC005
IC101
IC102
IC103
IC104
IC105
IC106
IC109
IC201
IC202
IC203
IC204
IC205
IC206
IC207
IC208
IC209
IC213
IC214
IC301
IC302
IC601
IC602
IC803
CB301
CB302
CB303
CB203
CB202
CB101
CB102
CB901
CH601
BA601
X001
X101
X601
TH601
S301
L002
L701
L702
VR001
VR002
VR003
VR004
VR101
VR102
VR103
T.P.1
T.P.2
T.P.3
T.P.4
T.P.5
T.P.6
T.P.7
T.P.8
T.P.9
1
2
3
4
5
A
B
C
D
E
F
G
H

Orange Color Pattern : Component Side Pattern
Blue Color Pattern : Foil Side Pattern


R043
E011
T.P.2
T.P.1
E018
L002
C047
C046
CB102
E019
Q103
E128
CB101
C125
C120
C124
T.P.6
T.P.8
R135
R134
VR102
C119
R133
Q111
T.P.9
R185
C142
VR101
R123
R132
R131
R187
R186
C113
R130
R105
T.P.7
VR103
ZD701
E120
Q704
Q112
E704
C143
IC701
E703
E702
L701
Q703
E701
L702
CH1301)

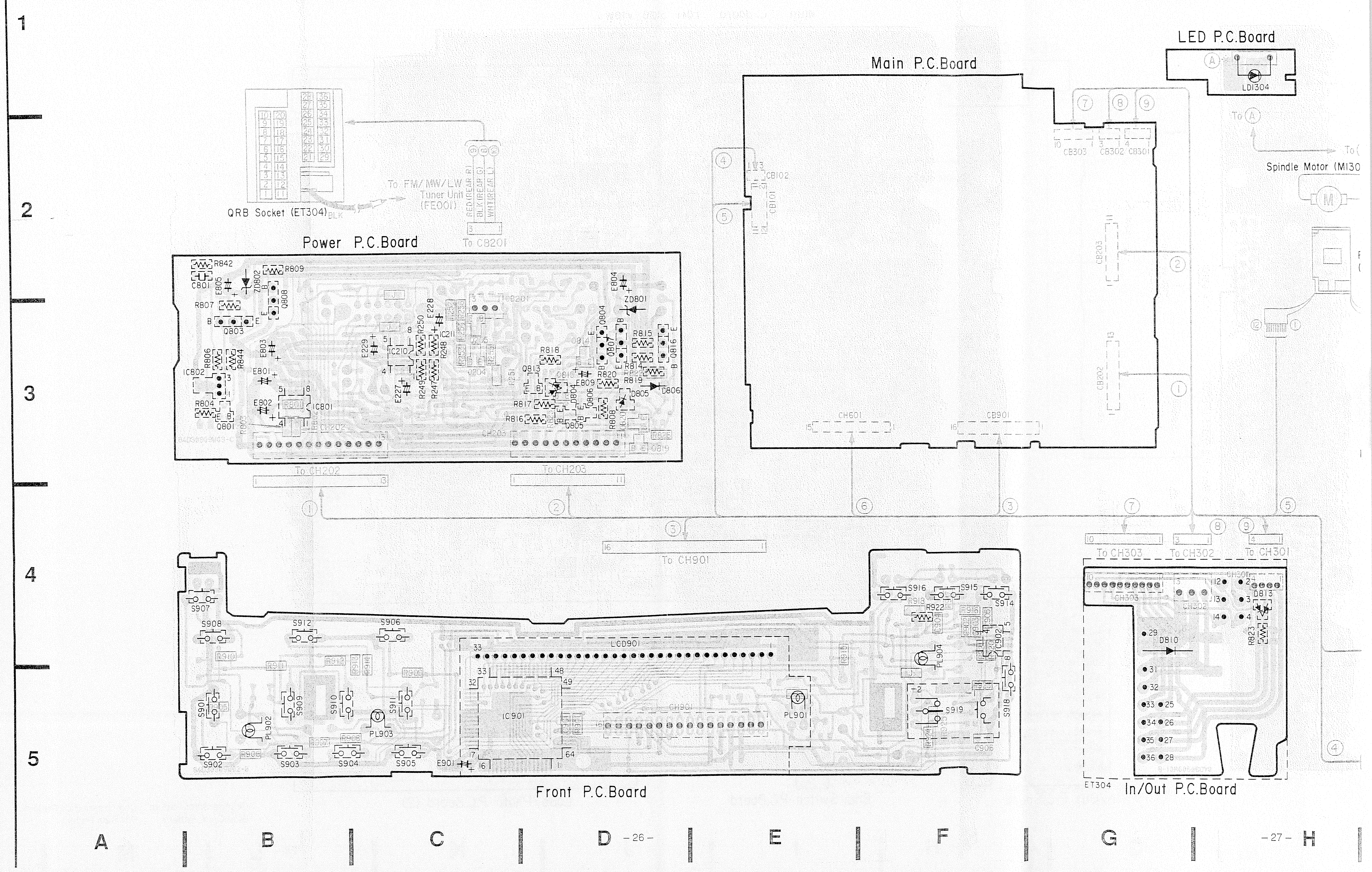

To CB102
BRN
RED
ORG
From End Switch P.C.Board
To CB101
From Pick up Unit
(HD1201)
To Main P.C.Board (FE001)
FM/MW/LW Tuner Unit (FE001)
From QRB Socket (ET304)

Main P. C. Board (Foil Side View)

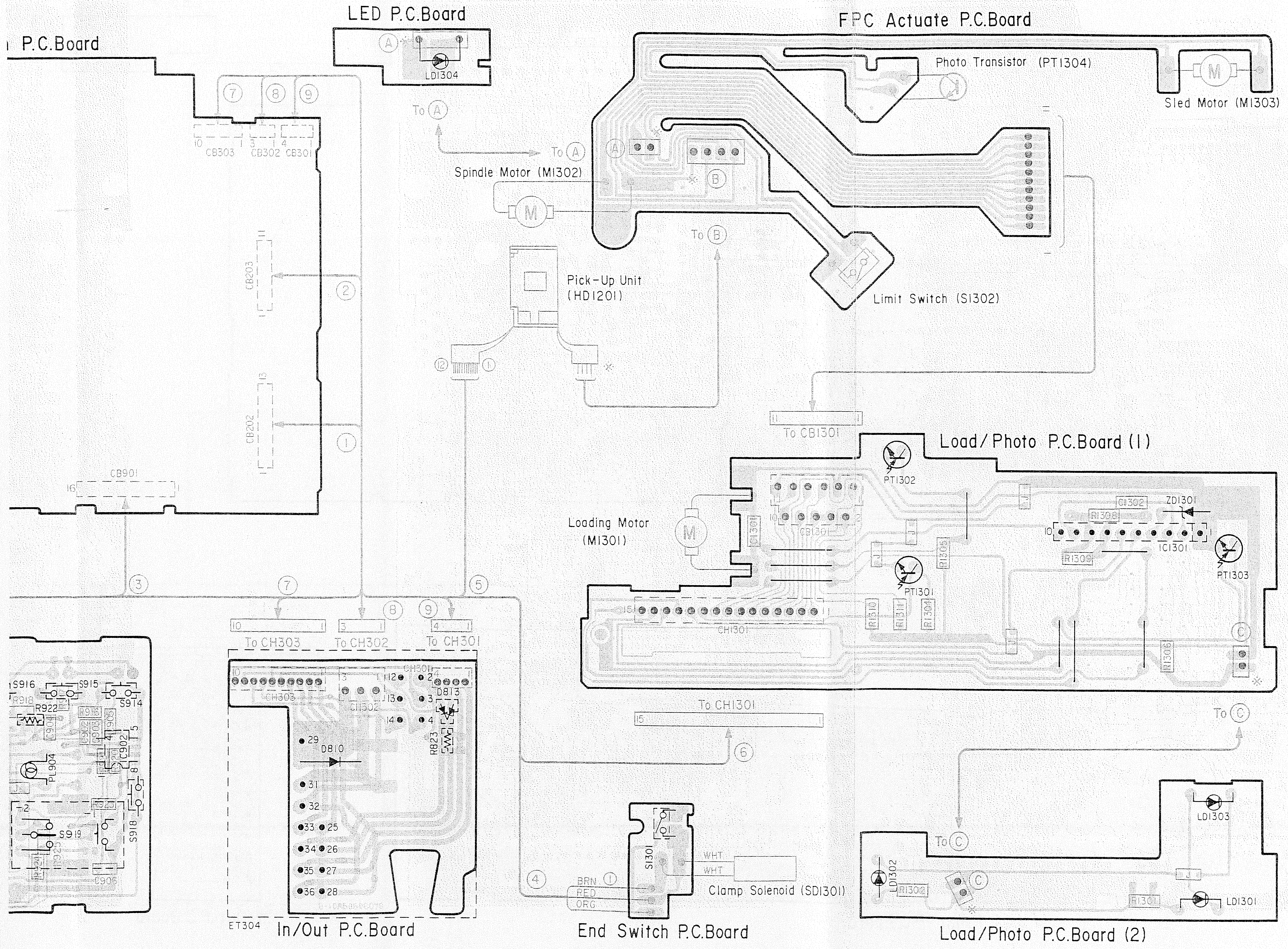

FE001
D004
IC001
IC002
IC003
IC004
IC101
IC103
IC104
IC105
IC201
IC205
IC206
IC208
IC209
IC301
IC302
IC601
IC602
IC701
IC801
X601
BA601
TH601
S301
VR001
VR002
VR003
VR004
VR101
VR102
VR103

Parts Layout on P.C. Boards and Wiring Diagram (2/2)

All P.C.Boards viewed from soldered side.

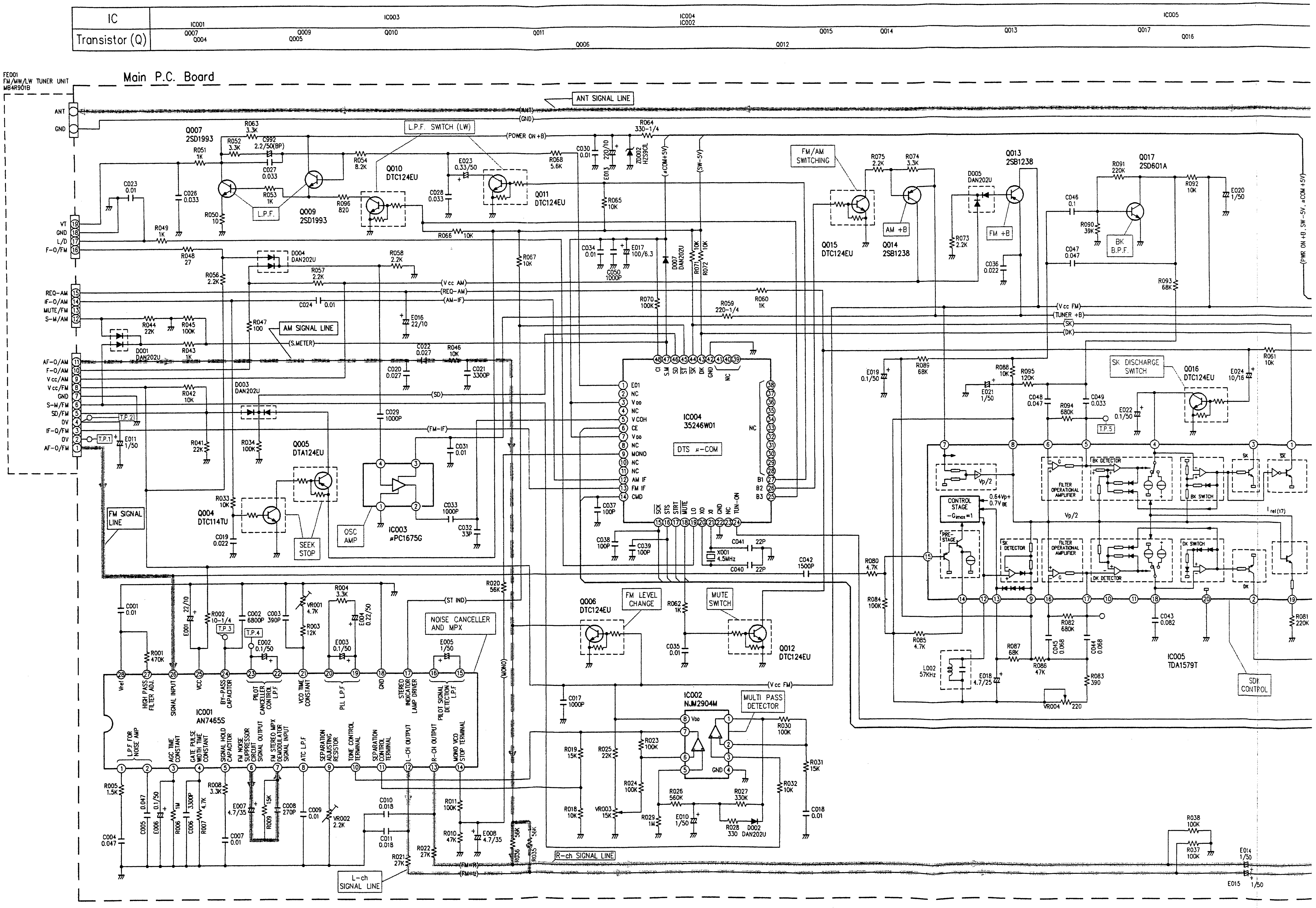

1
2
3
4
5
A
B
C
D
E
F
G
H
LED P.C.Board
LD1304
To (A)
Spindle Motor (M130
Main P.C.Board
CB303
CB302
CB301
CB102
CB101
CB203
CB202
CH601
CB901
QRB Socket (ET304)
To FM/MW/LW Tuner Unit (FE001)
RED (REAR R)
BLK (REAR G)
WHT (REAR L)
BLK
To CB201
Power P.C.Board
R842
R809
C801
E805
ZD802
Q808
R807
Q803
R806
R844
IC802
E803
E801
R804
Q801
E802
IC801
CH202
E229
IC210
R250
R249
R247
R248
E227
E228
IC211
CB201
Q205
Q204
CH203
R818
Q813
Q814
Q815
E809
R817
R816
Q805
Q804
Q807
Q806
R808
R815
R814
R820
R819
E804
ZD801
Q816
D805
D806
Q819
To CH202
To CH203
To CH901
To CH303
To CH302
To CH301
Front P.C.Board
S907
S908
S912
S906
S916
S915
S914
R918
R922
LCD901
IC901
CH901
PL901
PL902
PL903
PL904
S901
S909
S910
S911
S919
S918
S902
S903
S904
S905
E901
R910
R911
R912
R909
R908
R906
C906
In/Out P.C.Board
ET304
CH303
CH302
CH301
D813
D810
R823

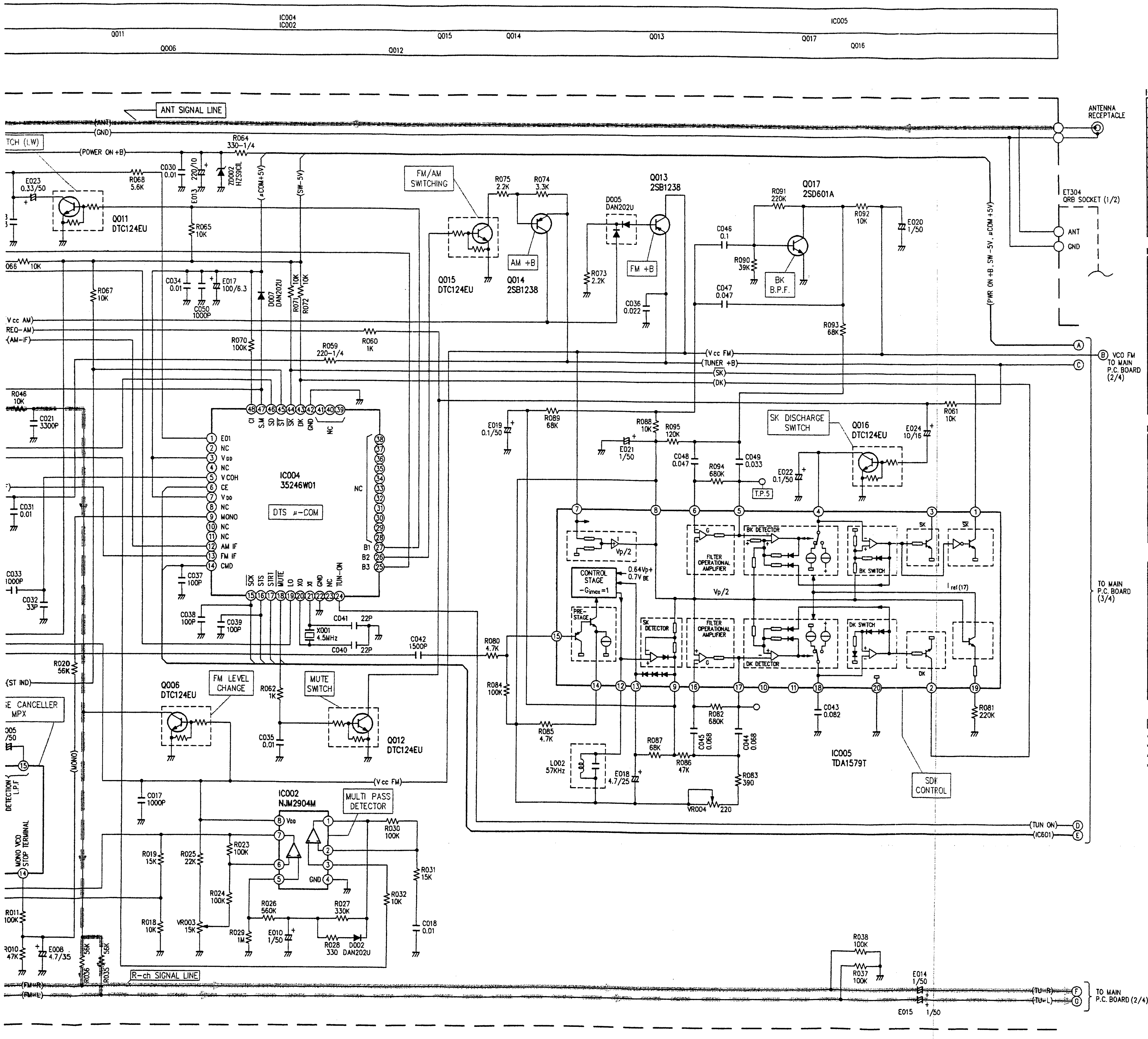
ewed from soldered side.


P.C.Board
LED P.C.Board
LD1304
FPC Actuate P.C.Board
Photo Transistor (PT1304)
Sled Motor (M1303)
To A
Spindle Motor (M1302)
To B
Pick-Up Unit (HD1201)
Limit Switch (S1302)
CB303
CB302
CB301
CB203
CB202
CB901
To CB1301
Load/Photo P.C.Board (1)
PT1302
Loading Motor (M1301)
CB1301
C1302
ZD1301
R1308
IC1301
R1309
R1305
PT1301
PT1303
CH1301
R1310
R1311
R1304
R1306
To CH1301
To C
To CH303
To CH302
To CH301
CH303
CH302
CH301
D813
R823
D810
S916
S915
S914
R918
R922
PL904
S919
S918
C906
S1301
BRN
RED
ORG
WHT
WHT
Clamp Solenoid (SD1301)
ET304
In/Out P.C.Board
End Switch P.C.Board
LD1303
LD1302
R1302
R1301
LD1301
Load/Photo P.C.Board (2)

Orange Color Pattern : Component Side Pattern
Blue Color Pattern : Foil Side Pattern

Schematic Diagram (1/4)


1
2
3
4
5
IC
Transistor (Q)
IC001
IC003
IC004
IC002
IC005
Q007
Q004
Q009
Q005
Q010
Q011
Q006
Q012
Q015
Q014
Q013
Q017
Q016
FE001
FM/MW/LW TUNER UNIT
MB4R901B
Main P.C. Board
ANT SIGNAL LINE
ANT
GND
(POWER ON +B)
Q007
2SD1993
Q009
2SD1993
L.P.F. SWITCH (LW)
L.P.F.
Q010
DTC124EU
Q011
DTC124EU
R064
330-1/4
ZD002
HZS9CL
FM/AM
SWITCHING
Q015
DTC124EU
Q014
2SB1238
AM +B
Q013
2SB1238
D005
DAN202U
FM +B
Q017
2SD601A
BK
B.P.F.
D004
DAN202U
(Vcc AM)
(REQ-AM)
(AM-IF)
AM SIGNAL LINE
(S.METER)
D001
DAN202U
D003
DAN202U
(SD)
(FM-IF)
VT
GND
L/D
F-O/FM
REQ-AM
IF-O/AM
MUTE/FM
S-M/AM
AF-O/AM
F-O/AM
Vcc/AM
Vcc/FM
GND
S-M/FM
SD/FM
0V
IF-O/FM
0V
AF-O/FM
T.P.1
T.P.2
FM SIGNAL LINE
Q005
DTA124EU
Q004
DTC114TU
SEEK
STOP
OSC
AMP
IC003
µPC1675G
(Vcc FM)
(TUNER +B)
(SK)
(DK)
IC004
35246W01
DTS µ-COM
X001
4.5MHz
SK DISCHARGE
SWITCH
Q016
DTC124EU
T.P.5
CONTROL
STAGE
PRE-
STAGE
SK DETECTOR
FILTER
OPERATIONAL
AMPLIFIER
BK DETECTOR
DK DETECTOR
BK SWITCH
DK SWITCH
IC005
TDA1579T
L002
57KHz
SDI
CONTROL
(ST IND)
NOISE CANCELLER
AND MPX
T.P.3
T.P.4
IC001
AN7465S
(MONO)
FM LEVEL
CHANGE
MUTE
SWITCH
Q006
DTC124EU
Q012
DTC124EU
IC002
NJM2904M
MULTI PASS
DETECTOR
D002
DAN202U
L-ch
SIGNAL LINE
R-ch SIGNAL LINE
(FM+R)
(FM+L)
(PWR ON +B, SW-5V, µCOM +5V)
A
B
C
D
E
F
G
H


IC004
IC002
IC005
Q011
Q006
Q012
Q015
Q014
Q013
Q017
Q016
ANT SIGNAL LINE
ANTENNA RECEPTACLE
ET304 QRB SOCKET (1/2)
ANT
GND
(POWER ON +B)
R064 330-1/4
E023 0.33/50
R068 5.6K
C030 0.01
E013 220/10
ZD002 HZS9C0L
(#COM+5V)
(SW-5V)
Q011 DTC124EU
R065 10K
R066 10K
R067 10K
C034 0.01
E017 100/6.3
C050 1000P
D007 DAN202U
R071 10K
R072 10K
FM/AM SWITCHING
R075 2.2K
R074 3.3K
Q015 DTC124EU
AM +B
Q014 2SB1238
D005 DAN202U
R073 2.2K
Q013 2SB1238
FM +B
C036 0.022
R091 220K
Q017 2SD601A
R092 10K
E020 1/50
C046 0.1
R090 39K
BK B.P.F.
C047 0.047
R093 68K
(PWR ON +B, SW-5V, #COM+5V)
Vcc AM
REQ-AM
AM-IF
R070 100K
R059 220-1/4
R060 1K
(Vcc FM)
(TUNER +B)
(SK)
(DK)
VCO FM TO MAIN P.C. BOARD (2/4)
R046 10K
C021 3300P
IC004 35246W01
DTS μ-COM
CI S.M SD ST SK DK GND NC
EO1
NC
VDD
NC
VCOH
CE
VDD
NC
MONO
NC
NC
AM IF
FM IF
CMD
SCK STS STR1 MUTE LO XO XI GND NC TUN-ON
B1
B2
B3
C031 0.01
C033 1000P
C032 33P
C037 100P
C038 100P
C039 100P
C041 22P
X001 4.5MHz
C040 22P
C042 1500P
E019 0.1/50
R089 68K
R088 10K
R095 120K
E021 1/50
C048 0.047
R094 680K
C049 0.033
E022 0.1/50
T.P.5
SK DISCHARGE SWITCH
Q016 DTC124EU
E024 10/16
R061 10K
Vp/2
CONTROL STAGE
-Gmax=1
0.64Vp+0.7VBE
PRE-STAGE
FILTER OPERATIONAL AMPLIFIER
BK DETECTOR
BK SWITCH
SK
SR
SK DETECTOR
DK DETECTOR
DK SWITCH
DK
Iref(17)
R080 4.7K
R084 100K
R085 4.7K
R082 680K
C045 0.068
C044 0.068
C043 0.082
R081 220K
L002 57KHz
E018 4.7/25
R087 68K
R086 47K
R083 390
VR004 220
IC005 TDA1579T
SDK CONTROL
TO MAIN P.C. BOARD (3/4)
R020 56K
(ST IND)
NOISE CANCELLER MPX
Q006 DTC124EU
FM LEVEL CHANGE
R062 1K
MUTE SWITCH
Q012 DTC124EU
C035 0.01
(MONO)
DETECTION L.P.F.
MONO VCO STOP TERMINAL
C017 1000P
IC002 NJM2904M
MULTI PASS DETECTOR
R030 100K
R019 15K
R025 22K
R023 100K
R024 100K
VR003 15K
R026 560K
R027 330K
R029 1M
E010 1/50
R028 330
D002 DAN202U
R031 15K
R032 10K
C018 0.01
R018 10K
R011 100K
R010 47K
E008 4.7/35
R036 56K
R035 56K
R-ch SIGNAL LINE
(FM-R)
(FM-L)
(TUN ON)
(IC601)
R038 100K
R037 100K
E014 1/50
E015 1/50
(TU-R)
(TU-L)
TO MAIN P.C. BOARD (2/4)

IC001

1	2.3V	15	2.3V
2	1.7V	16	2.3V
3	1.3V	17	4.8V
4	0V	18	0V
5	2.4V	19	2.4V
6	1.3V	20	2.4V
7	1.1V	21	1.3V
8	0V	22	2.1V
9	0.25V	23	2.1V
10	4.5V	24	2.4V
11	1.7V	25	8.8V
12	2.8V	26	2.3V
13	2.8V	27	1.6V
14	0V	28	2.4V

IC002

1	0.1V
2	0.2V
3	0.2V
4	0V
5	0.2V
6	0.8V
7	0V
8	8.6V

IC003

1	3.9V
2	0V
3	1.1V
4	4.8V

IC004

1	1.2V	16	PS	30	NC	46	4.5V
2	1.4V	17	PS	31	NC	47	4.6V
3	5.1V	18	5.1V	32	NC	48	4.6V
4	1.7V	19	0V	33	NC		
5	3.2V	20	PS	34	NC		
6	5.1V	21	PS	35	NC		
7	0V	22	0V	36	NC		
8	0V	23	0V	37	NC		
9	0V/5.1V	24	5.1V/0V	38	NC		
	ST/MONO		TUNER ON/OFF	39	NC		
10	0V			40	NC		
11	0V	25	4.7V	41	NC		
12	0V	26	0V	42	0V		
13	0V	27	1.1V	43	0V		
14	PS	28	NC	44	4.2V		
15	PS	29	NC	45	4.2V		

IC005

1	4.2V/0V	10	0V
	SDK ON/OFF	11	0.4V
		12	4.4V
2	0.1V	13	3.8V
3	0V	14	4.2V
4	0V	15	3.5V
5	4.3V	16	3.1V
6	3V	17	4.4V
7	4.7V	18	0.1V
8	4.3V	19	3.6V
9	4.4V	20	0V

	E	C	B
Q004	0V	4.9V	0V
Q005	4.8V	0.2V	5V
Q006	8.6V	0V	0V
Q007	8V	8.6V	8.7V
Q009	0.6V	9.3V	1.2V
Q010	0V	0.6V	1V
Q011	1V	0V	0V
Q012	4.9V	0V	0V
Q013	8.7V	8.6V	8V
Q014	8.7V	0.5V	8.7V
Q015	0V	8.7V	0V
Q016	0.1V	0.1V	0V
Q017	0.6V	4.3V	0V

[Measuring Conditions]

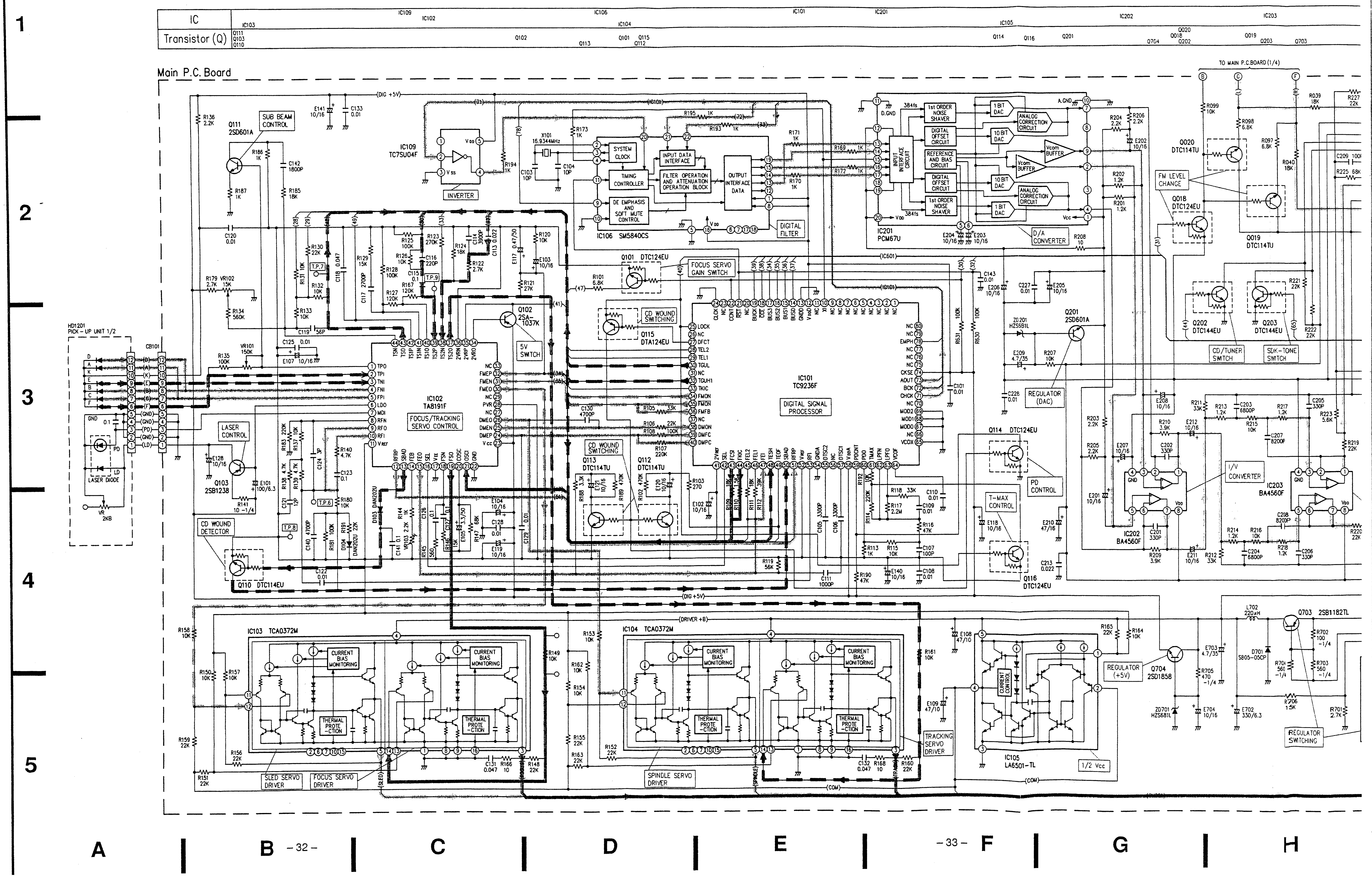
- Power Supply Voltage : DC14V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions :

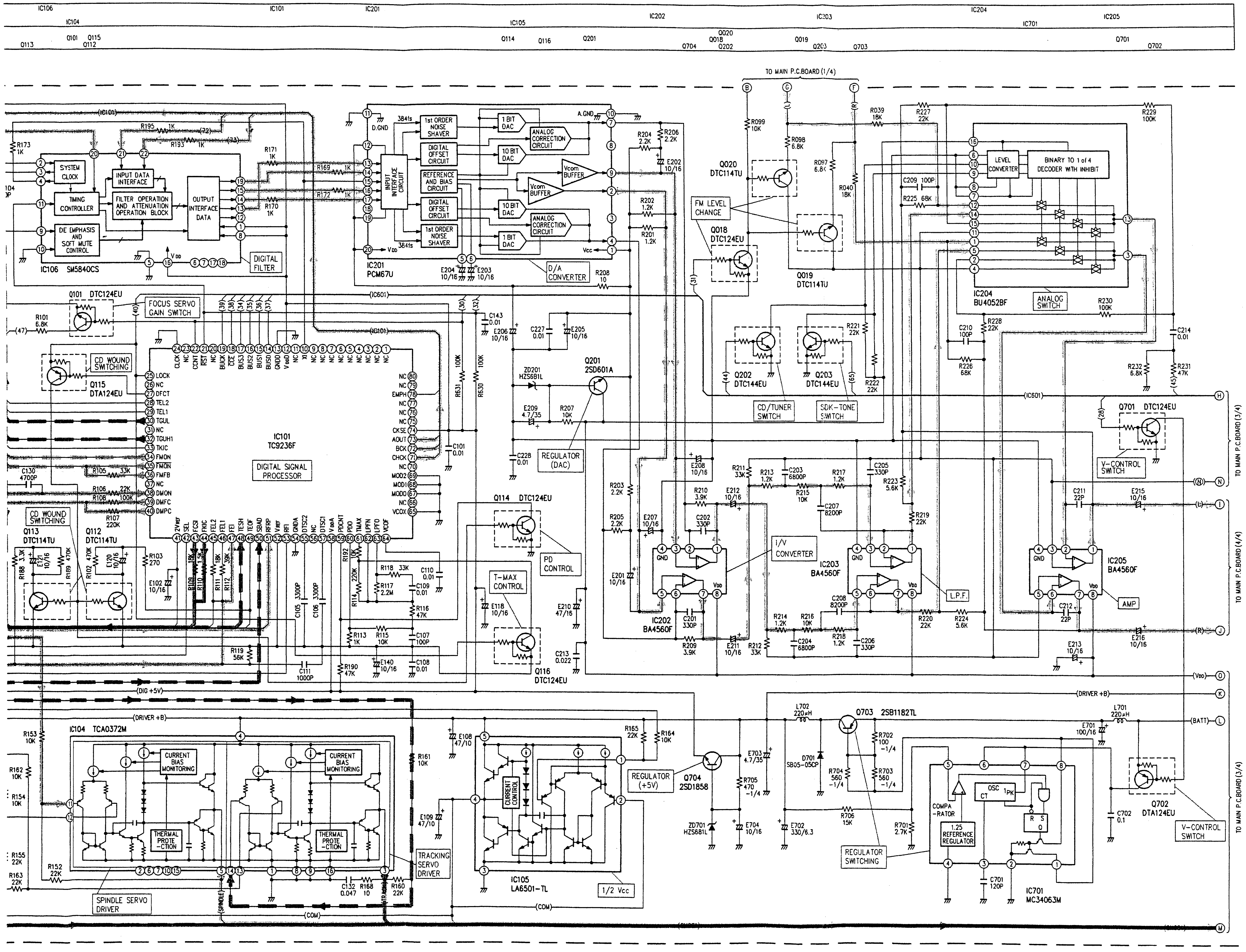
CD : Be playing back the 2nd Music
of the test CD (YEDS - 18).
TUNER : No signal input
FM : 98.1 MHz
MW : 999 kHz
LW : 216 kHz

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (2/4)


IC
Transistor (Q)
Main P.C. Board
TO MAIN P.C.BOARD (1/4)
HD1201 PICK-UP UNIT 1/2
LASER DIODE
CB101
(DIG +5V)
SUB BEAM CONTROL
Q111 2SD601A
LASER CONTROL
Q103 2SB1238
CD WOUND DETECTOR
Q110 DTC114EU
IC109 TC7SU04F
INVERTER
IC102 TA8191F
FOCUS/TRACKING SERVO CONTROL
Q102 2SA-1037K
5V SWITCH
X101 16.9344MHz
SYSTEM CLOCK
TIMING CONTROLLER
INPUT DATA INTERFACE
FILTER OPERATION AND ATTENUATION OPERATION BLOCK
DE EMPHASIS AND SOFT MUTE CONTROL
OUTPUT INTERFACE DATA
IC106 SM5840CS
DIGITAL FILTER
Q101 DTC124EU
FOCUS SERVO GAIN SWITCH
CD WOUND SWITCHING
Q115 DTA124EU
Q113 DTC114TU
Q112 DTC114TU
IC101 TC9236F
DIGITAL SIGNAL PROCESSOR
INPUT INTERFACE CIRCUIT
1st ORDER NOISE SHAVER
DIGITAL OFFSET CIRCUIT
REFERENCE AND BIAS CIRCUIT
10 BIT DAC
1 BIT DAC
ANALOG CORRECTION CIRCUIT
Vcom BUFFER
IC201 PCM67U
D/A CONVERTER
ZD201 HZS5B1L
Q201 2SD601A
REGULATOR (DAC)
Q114 DTC124EU
PD CONTROL
T-MAX CONTROL
Q116 DTC124EU
Q020 DTC114TU
FM LEVEL CHANGE
Q018 DTC124EU
Q019 DTC114TU
Q202 DTC144EU
Q203 DTC144EU
CD/TUNER SWITCH
SDK-TONE SWITCH
I/V CONVERTER
IC202 BA4560F
IC203 BA4560F
(DRIVER +B)
IC103 TCA0372M
CURRENT BIAS MONITORING
THERMAL PROTE-CTION
SLED SERVO DRIVER
FOCUS SERVO DRIVER
IC104 TCA0372M
SPINDLE SERVO DRIVER
TRACKING SERVO DRIVER
IC105 LA6501-TL
CURRENT CONTROL
1/2 Vcc
(COM)
REGULATOR (+5V)
Q704 2SD1858
ZD701 HZS681L
D701 S805-05CP
L702 220μH
Q703 2SB1182TL
REGULATOR SWITCHING
1
2
3
4
5
A
B
C
D
E
F
G
H


IC106
IC104
IC101
IC201
IC105
IC202
IC203
IC204
IC701
IC205
Q113
Q101 Q115
Q112
Q114
Q116
Q201
Q704
Q020
Q018
Q202
Q019
Q203
Q703
Q701
Q702
TO MAIN P.C.BOARD (1/4)
SYSTEM CLOCK
TIMING CONTROLLER
DE EMPHASIS AND SOFT MUTE CONTROL
INPUT DATA INTERFACE
FILTER OPERATION AND ATTENUATION OPERATION BLOCK
OUTPUT INTERFACE DATA
DIGITAL FILTER
IC106 SM5840CS
1st ORDER NOISE SHAVER
DIGITAL OFFSET CIRCUIT
REFERENCE AND BIAS CIRCUIT
INPUT INTERFACE CIRCUIT
1 BIT DAC
10 BIT DAC
ANALOG CORRECTION CIRCUIT
Vcom BUFFER
IC201 PCM67U
D/A CONVERTER
FM LEVEL CHANGE
Q020 DTC114TU
Q018 DTC124EU
Q019 DTC114TU
LEVEL CONVERTER
BINARY TO 1 of 4 DECODER WITH INHIBIT
IC204 BU4052BF
ANALOG SWITCH
Q101 DTC124EU
FOCUS SERVO GAIN SWITCH
CD WOUND SWITCHING
Q115 DTA124EU
IC101 TC9236F
DIGITAL SIGNAL PROCESSOR
CD WOUND SWITCHING
Q113 DTC114TU
Q112 DTC114TU
ZD201 HZS6B1L
Q201 2SD601A
REGULATOR (DAC)
Q202 DTC144EU
Q203 DTC144EU
CD/TUNER SWITCH
SDK-TONE SWITCH
I/V CONVERTER
IC202 BA4560F
IC203 BA4560F
L.P.F.
IC205 BA4560F
AMP
Q701 DTC124EU
V-CONTROL SWITCH
Q114 DTC124EU
PD CONTROL
T-MAX CONTROL
Q116 DTC124EU
IC104 TCA0372M
CURRENT BIAS MONITORING
THERMAL PROTE-CTION
SPINDLE SERVO DRIVER
TRACKING SERVO DRIVER
IC105 LA6501-TL
CURRENT CONTROL
1/2 Vcc
REGULATOR (+5V)
Q704 2SD1858
ZD701 HZS6B1L
L702 220μH
Q703 2SB1182TL
D701 SB05-05CP
REGULATOR SWITCHING
COMPA-RATOR
1.25 REFERENCE REGULATOR
OSC
IC701 MC34063M
L701 220μH
Q702 DTA124EU
V-CONTROL SWITCH
TO MAIN P.C.BOARD (3/4)
TO MAIN P.C.BOARD (4/4)
(DIG+5V)
(DRIVER +B)
(BATT)
(COM)
(Vdd)

IC101

1	4.8V	17	PS	33	1.7V	49	2.2V	65	0V
2	4.8V	18	PS	34	2.2V	50	2.5V	66	PS
3		19	PS	35	2.2V	51	2.4V	67	0.1V
4	PS	20	PS	36	2.1V	52	2.2V	68	0.1V
5	PS	21	5V	37	5V	53	PS	69	0.1V
6	PS	22	0V	38	2.2V	54	0.1V	70	PS
7	PS	23	PS	39	PS	55	2.6V	71	PS
8	PS	24	0V	40	PS	56	2.6V	72	PS
9	5.1V	25	5.1V	41	4.3V	57	5.6V	73	PS
10	2.5V	26	4.8V	42	5.1V	58	5.1V	74	5.1V
11	2.4V	27	4.7V	43	2.6V	59	PS	75	0V
12	5.1V	28	2.2V	44	2.6V	60	PS	76	5V
13	0V	29	2.2V	45	2.2V	61	PS	77	5.1V
14	PS	30	2.2V	46	2.2V	62	2.3V	78	0V
15	PS	31	0.4V	47	2.2V	63	2.5V	79	5V
16	PS	32	0.4V	48	2.2V	64	1.6V	80	PS

IC102

1	1.7V	12	PS	23	5V	34	4.4V
2	2V	13	2.7V	24	PS	35	0V
3	2V	14	2V	25	2.1V	36	2.1V
4	2V	15	PS	26	PS	37	PS
5	2V	16	4.9V	27	PS	38	2V
6	3.9V	17	0V	28	2.1V	39	2V
7	0.1V	18	PS	29	2.1V	40	PS
8	2.1V	19	PS	30	2V	41	2V
9	PS	20	PS	31	2V	42	2.1V
10	PS	21	2.4V	32	2.1V	43	2.1V
11	2.1V	22	0V	33	PS	44	2.1V

IC103

1	0V	9	0V
2	0V	10	0V
3	4V	11	2.6V
4	8.5V	12	2.6V
5	3.5V	13	2.6V
6	0V	14	2.6V
7	0V	15	0V
8	0V	16	0V

IC104

1	0V	9	0V
2	0V	10	0V
3	4V	11	2.6V
4	8.5V	12	2.6V
5	3.5V	13	2.6V
6	0V	14	2.6V
7	0V	15	0V
8	0V	16	0V

IC105

1	2.6V
2	4V
3	0V
4	4V
5	8.5V

IC109

1	0.1V
2	0V
3	0.1V
4	0.2V

IC106

1	5.1V	12	PS
2	2.6V	13	PS
3	2.6V	14	PS
4	PS	15	PS
5	0V	16	5.1V
6	0V	17	0V
7	0V	18	0V
8	5.1V	19	PS
9	0V	20	PS
10	0V	21	PS
11	4.9V	22	PS

IC201

1	5V	11	0V
2	3.5V	12	0.3V
3	0.4V	13	PS
4	3.5V	14	PS
5	3.2V	15	PS
6	4.2V	16	PS
7	3.5V	17	PS
8	0.4V	18	0V
9	3.5V	19	0V
10	0V	20	4.9V

IC202

1	AUDIO
2	3.5V
3	3.5V
4	0V
5	3.5V
6	3.5V
7	AUDIO
8	8.3V

IC203

1	AUDIO
2	AUDIO
3	AUDIO
4	0V
5	AUDIO
6	AUDIO
7	AUDIO
8	8.3V

IC205

1	AD 4.2V
2	4.2V
3	4.2V
4	0V
5	4.2V
6	4.2V
7	AUDIO
8	8.3V

IC204

1	AD 3.7V	9	0V
2	AD 4.1V	10	8V
3	4.2V	11	0V
4	0V	12	AD 3.7V
5	4.2V	13	4.2V
6	0V	14	4.2V
7	0V	15	AD 4V
8	0V	16	8.3V

IC701

1	13.7V
2	0V
3	0.2V
4	0V
5	0V
6	0V
7	0V
8	13.7V

	E	C	B		E	C	B
Q018	0V	6.4V	0V	Q114	0.1V	PS	0V
Q019	0V	4.6V	4.4V	Q115	0V	0V	0V
Q020	4.4V	4.6V	0V	Q116	0V	PS	5.1V
Q101	0V	0V	0V	Q201	5.7V	8.9V	5V
Q102	0V	0V	0V	Q202	5.1V	0V	0V
Q103	0V	0.1V	0V	Q203	3.5V	0V	0V
Q110	0V	0V	0V	Q701	0V	13.2V	0V
Q111	0V	0V	0V	Q702	13.2V	0V	13.8V
Q112	0V	0V	-0.4V	Q703	13.7V	0V	13.7V
Q113	0V	0V	0.1V	Q704	0V	0V	0V

[Measuring Conditions]

- Power Supply Voltage: DC14V
- Measuring Meter: Digital Multi Voltmeter
- Measuring Point Reference: Between Ground
- Measuring Conditions:
  CD: Be playing back the 2nd Music
  of the test CD (YEDS – 18).
  TUNER: No signal input
  FM : 98.1 MHz
  MW: 999 kHz
  LW : 216 kHz

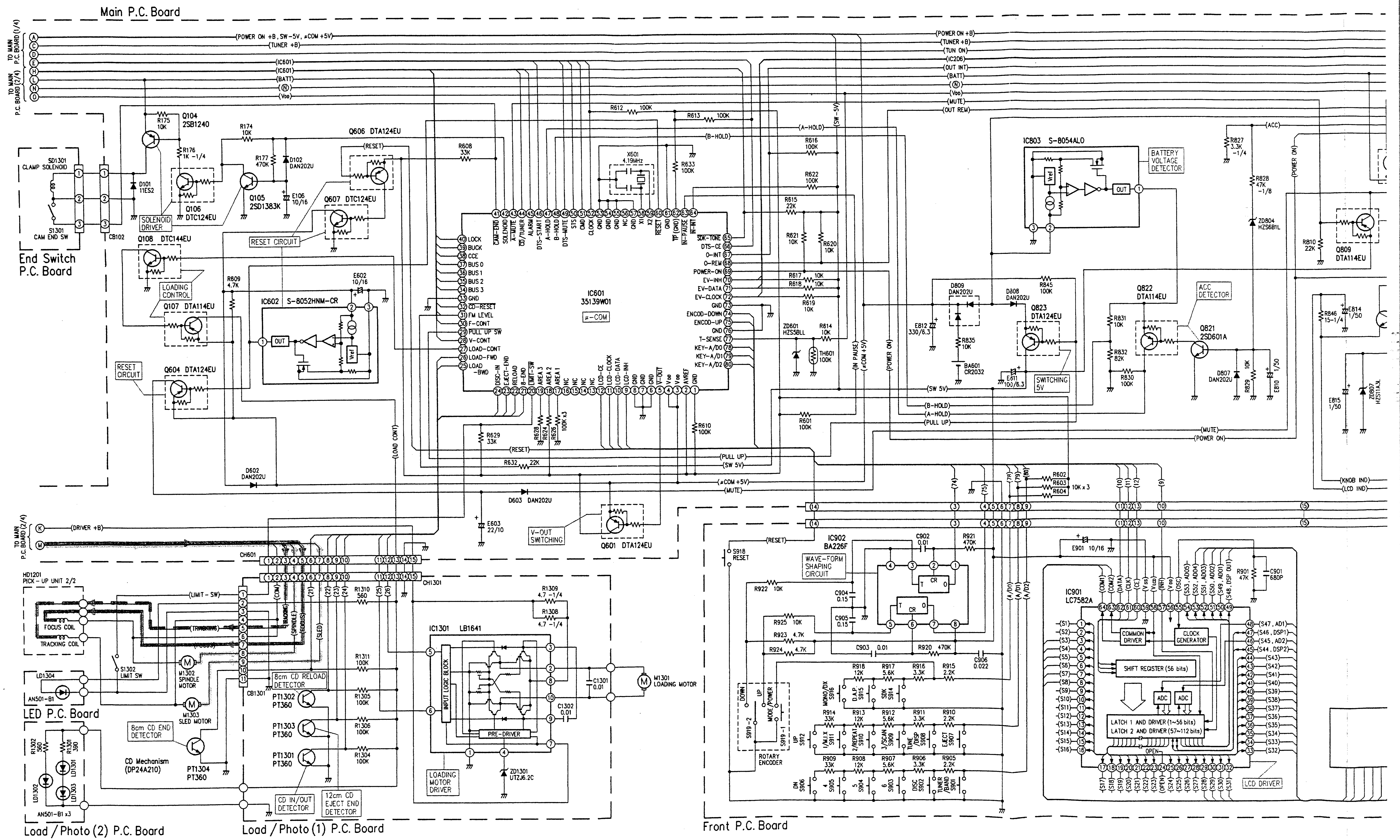
CD Signal Line (Digital)
L–ch Signal Line
R–ch Signal Line
Focus Servo Signal Line
Tracking Servo Signal Line
Spindle Servo Signal Line
Sled Servo Signal Line

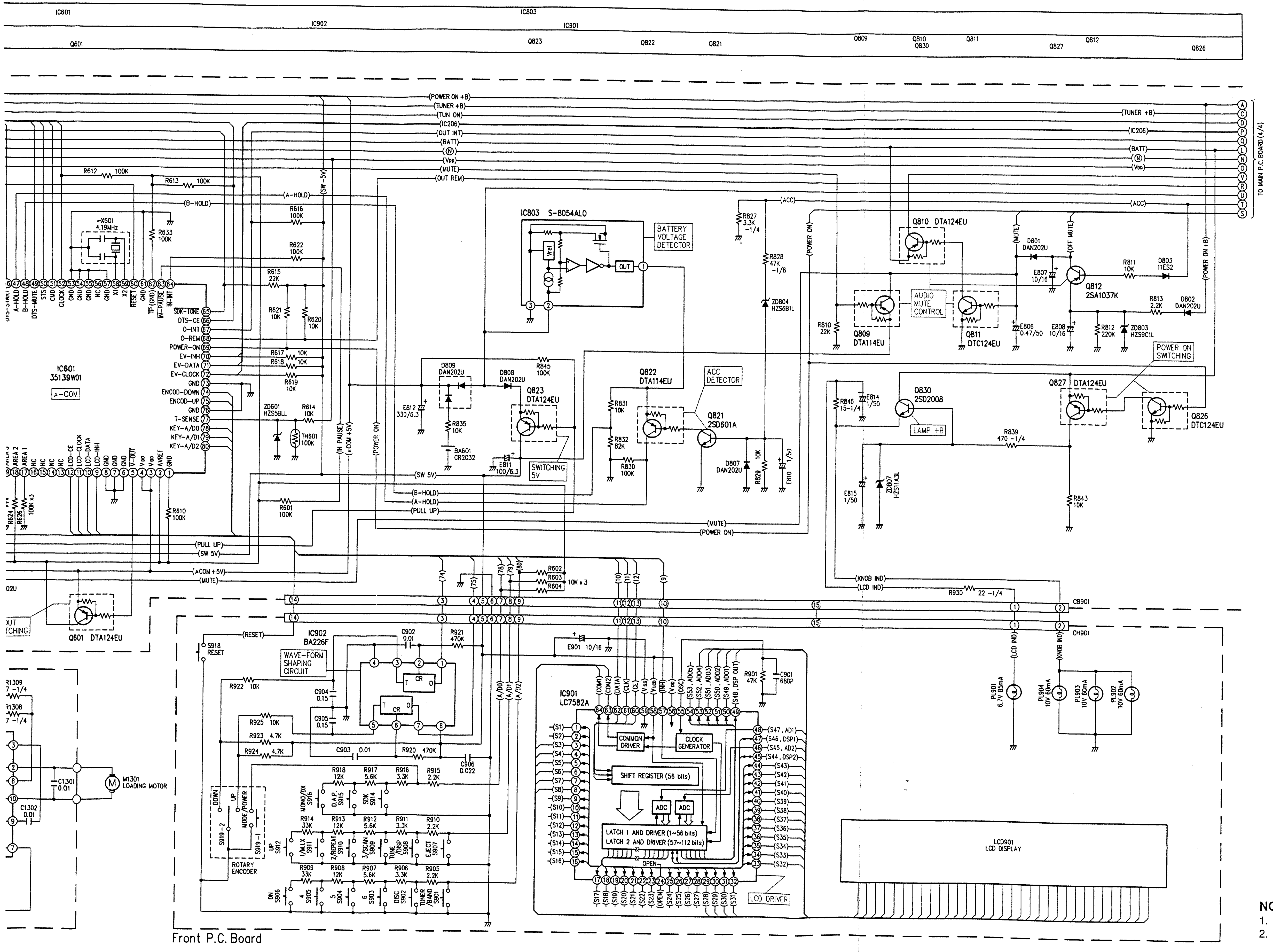
NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (3/4)

IC	IC602 IC1301 IC601 IC902 IC803 IC901
Transistor (Q),(PT)	Q108 Q107 Q604 Q104 Q106 PT1304 Q105 PT1302 PT1303 PT1301 Q607 Q606 Q601 Q823 Q822 Q821 Q809


1
2
3
4
5
Main P.C. Board
TO MAIN P.C. BOARD (1/4)
TO MAIN P.C. BOARD (2/4)
(POWER ON +B, SW-5V, μCOM +5V)
(TUNER +B)
(IC601)
(BATT)
(VDD)
(POWER ON +B)
(TUN ON)
(IC206)
(OUT INT)
(MUTE)
(OUT REM)
(A-HOLD)
(B-HOLD)
(SW-5V)
(ACC)
(RESET)
(PULL UP)
(SW 5V)
(μCOM +5V)
(POWER ON)
(KNOB IND)
(LCD IND)
(DRIVER +B)
SD1301 CLAMP SOLENOID
S1301 CAM END SW
End Switch P.C. Board
CB102
D101 11ES2
Q104 2SB1240
R175 10K
R176 1K -1/4
Q106 DTC124EU
SOLENOID DRIVER
R174 10K
R177 470K
D102 DAN202U
Q105 2SD1383K
E106 10/16
Q606 DTA124EU
Q607 DTC124EU
RESET CIRCUIT
R608 33K
Q108 DTC144EU
LOADING CONTROL
Q107 DTA114EU
R609 4.7K
IC602 S-8052HNM-CR
E602 10/16
OUT
Vref
Q604 DTA124EU
D602 DAN202U
D603 DAN202U
E603 22/10
(LOAD CONT)
R629 33K
R632 22K
R628 R624 R626 100K x3
R610 100K
R612 100K
R613 100K
R616 100K
R622 100K
R633 100K
X601 4.19MHz
R615 22K
R621 10K
R620 10K
R617 10K
R618 10K
R619 10K
ZD601 HZS5BLL
R614 10K
TH601 100K
R601 100K
IC601 35139W01
μ-COM
LOCK
BUCK
CCE
BUS 0
BUS 1
BUS 2
BUS 3
GND
CD-RESET
FM LEVEL
F-CONT
PULL UP SW
V-CONT
LOAD-CONT
LOAD-FWD
LOAD-BWD
CAM-END
SOLENOID
X-MUTE
CD/TUNER
ALARM
DTS-START
A-HOLD
B-HOLD
DTS-MUTE
STS
CMD
CLOCK
GND
NC
X1
X2
RESET
TP (GND)
IN-PAUSE
IF-INT
SDK-TONE
DTS-CE
O-INT
O-REM
POWER-ON
EV-INH
EV-DATA
EV-CLOCK
ENCOD-DOWN
ENCOD-UP
T-SENSE
KEY-A/D0
KEY-A/D1
KEY-A/D2
DISC-IN
EJECT-END
RELOAD
8-END
LIMIT-SW
AREA 3
AREA 2
AREA 1
LCD-CE
LCD-CLOCK
LCD-DATA
LCD-INH
V-OUT
AVREF
(IN PAUSE)
Q601 DTA124EU
V-OUT SWITCHING
IC803 S-8054ALO
BATTERY VOLTAGE DETECTOR
R827 3.3K -1/4
R828 47K -1/8
ZD804 HZS6B1L
Q809 DTA114EU
R810 22K
D809 DAN202U
D808 DAN202U
R845 100K
E812 330/6.3
R835 10K
BA601 CR2032
E811 100/6.3
Q823 DTA124EU
SWITCHING 5V
Q822 DTA114EU
R831 10K
R832 82K
R830 100K
ACC DETECTOR
Q821 2SD601A
D807 DAN202U
R829 10K
E810 1/50
R846 15-1/4
E814 1/50
E815 1/50
ZD807
R602 R603 R604 10K x 3
CH601
CH1301
CB1301
HD1201 PICK-UP UNIT 2/2
FOCUS COIL
TRACKING COIL
(LIMIT-SW)
(TRACKING)
(FOCUS)
(SPINDLE)
(SLED)
S1302 LIMIT SW
M1302 SPINDLE MOTOR
M1303 SLED MOTOR
LD1304
AN501-B1
LED P.C. Board
8cm CD END DETECTOR
PT1304 PT360
CD Mechanism (DP24A210)
R1302 560
R1301 390
LD1301
LD1302
LD1303
AN501-B1 x3
Load / Photo (2) P.C. Board
8cm CD RELOAD DETECTOR
PT1302 PT360
PT1303 PT360
PT1301 PT360
R1310 560
R1311 100K
R1305 100K
R1306 100K
R1304 100K
CD IN/OUT DETECTOR
12cm CD EJECT END DETECTOR
Load / Photo (1) P.C. Board
IC1301 LB1641
INPUT LOGIC BLOCK
PRE-DRIVER
R1309 4.7 -1/4
R1308 4.7 -1/4
C1301 0.01
C1302 0.01
M1301 LOADING MOTOR
ZD1301 UTZJ6.2C
LOADING MOTOR DRIVER
S918 RESET
IC902 BA226F
WAVE-FORM SHAPING CIRCUIT
C902 0.01
R921 470K
R922 10K
C904 0.15
C905 0.15
R925 10K
R923 4.7K
R924 4.7K
C903 0.01
R920 470K
C906 0.022
CR
(A/D0)
(A/D1)
(A/D2)
S919-2
S919-1
DOWN
UP
MODE/POWER
ROTARY ENCODER
R918 12K
R917 5.6K
R916 3.3K
R915 2.2K
MONO/DX S916
D.A.P. S915
SDK S914
R914 33K
R913 12K
R912 5.6K
R911 3.3K
R910 2.2K
V.AUX S912
2/REPEAT S910
3/SCAN S909
TIME /DISP S908
EJECT S907
R909 33K
R908 12K
R907 5.6K
R906 3.3K
R905 2.2K
ON S906
4 S905
5 S904
6 S903
DISC S902
TUNER /BAND S901
Front P.C. Board
E901 10/16
R901 47K
C901 680P
IC901 LC7582A
COMMON DRIVER
CLOCK GENERATOR
SHIFT REGISTER (56 bits)
ADC
LATCH 1 AND DRIVER (1~56 bits)
LATCH 2 AND DRIVER (57~112 bits)
OPEN
LCD DRIVER
(COM1)
(COM2)
(DATA)
(CLK)
(CE)
(VSS)
(INH)
(VDD)
(OSC)
(S53, AD05)
(S52, AD04)
(S51, AD03)
(S50, AD02)
(S49, AD01)
(S48, DSP 0U1)
(S47, AD1)
(S46, DSP1)
(S45, AD2)
(S44, DSP2)


IC601
IC902
IC803
IC901
Q601
Q823
Q822
Q821
Q809
Q810
Q830
Q811
Q827
Q812
Q826
(POWER ON +B)
(TUNER +B)
(TUN ON)
(IC206)
(OUT INT)
(BATT)
(Vdd)
(MUTE)
(OUT REM)
(A-HOLD)
(B-HOLD)
(ACC)
(SW 5V)
(PULL UP)
(POWER ON)
(µCOM +5V)
(RESET)
(KNOB IND)
(LCD IND)
TO MAIN P.C. BOARD (4/4)
R612 100K
R613 100K
X601 4.19MHz
R633 100K
R616 100K
R622 100K
R615 22K
R621 10K
R620 10K
R617 10K
R618 10K
R619 10K
ZD601 HZS5BLL
R614 10K
TH601 100K
IC601 35139W01
µ-COM
SDK-TONE
DTS-CE
O-INT
O-REM
POWER-ON
EV-INH
EV-DATA
EV-CLOCK
GND
ENCOD-DOWN
ENCOD-UP
T-SENSE
KEY-A/D0
KEY-A/D1
KEY-A/D2
R601 100K
R610 100K
100K x3
IC803 S-8054ALO
BATTERY VOLTAGE DETECTOR
Vref
OUT
D809 DAN202U
D808 DAN202U
R845 100K
E812 330/6.3
R835 10K
BA601 CR2032
E811 100/6.3
Q823 DTA124EU
SWITCHING 5V
Q822 DTA114EU
ACC DETECTOR
R831 10K
R832 82K
R830 100K
Q821 2SD601A
D807 DAN202U
R829 10K
E810 1/50
R827 3.3K -1/4
R828 47K -1/8
ZD804 HZS6B1L
Q810 DTA124EU
AUDIO MUTE CONTROL
Q809 DTA114EU
Q811 DTC124EU
R810 22K
E806 0.47/50
E808 10/16
R812 220K
ZD803 HZS9C1L
D801 DAN202U
E807 10/16
Q812 2SA1037K
R811 10K
D803 11ES2
R813 2.2K
D802 DAN202U
POWER ON SWITCHING
Q827 DTA124EU
Q826 DTC124EU
R846 15-1/4
E814 1/50
Q830 2SD2008
LAMP +B
R839 470 -1/4
E815 1/50
ZD807 HZS11AJL
R843 10K
R930 22 -1/4
CB901
CH901
PL901 6.7V 85mA
PL904 10V 60mA
PL903 10V 60mA
PL902 10V 60mA
R602
R603
R604
10K x 3
Q601 DTA124EU
SWITCHING
R1309 7 -1/4
R1308 7 -1/4
C1301 0.01
C1302 0.01
M1301 LOADING MOTOR
S918 RESET
IC902 BA226F
WAVE-FORM SHAPING CIRCUIT
C902 0.01
R921 470K
R922 10K
C904 0.15
C905 0.15
R925 10K
R923 4.7K
R924 4.7K
C903 0.01
R920 470K
C906 0.022
R918 12K
R917 5.6K
R916 3.3K
R915 2.2K
MONO/DX S916
D.A.P. S915
SDK S914
DOWN
UP
MODE/POWER
S919-2
S919-1
ROTARY ENCODER
R914 33K
R913 12K
R912 5.6K
R911 3.3K
R910 2.2K
UP S912
I/M.I.X S911
2/REPEAT S910
3/SCAN S909
TUNE/DISP S908
EJECT S907
R909 33K
R908 12K
R907 5.6K
R906 3.3K
R905 2.2K
DN S906
4 S905
5 S904
6 S903
DISC S902
TUNER/BAND S901
E901 10/16
IC901 LC7582A
R901 47K
C901 680P
COMMON DRIVER
CLOCK GENERATOR
SHIFT REGISTER (56 bits)
ADC
LATCH 1 AND DRIVER (1~56 bits)
LATCH 2 AND DRIVER (57~112 bits)
OPEN
LCD DRIVER
LCD901 LCD DISPLAY
Front P.C. Board

IC601

1	4.6V/0V	18	5V	33	0V	42	0V	59	PS	68	0V/5V
2	5.1V/0V	19	5V	34	PS	43	5.1V/0V	60	5V		O-REM OFF/ON
3	5V/6V	20	0V/4.6V		CD	44	5.1V/0V	61	0V		
4	5V/6V	21	0V	35	PS	45	0V/PS	62	5V	69	2.8V/0V
5	0V/5.3V	22	0V		CD	46	PS	63	5V/0V		POW ON/OFF
6	0V	23	0V	36	PS	47	5.4V/0V		IN-INT OFF/ON	70	PS
7	0V	24	0V		CD	48	4.8V/0V			71	PS
8	0V	25	0V	37	PS	49	PS	64	5V/0V	72	PS
9	5.1V	26	0V		CD	50	PS		IN-PAUSE OFF/ON	73	0V
10	PS	27	5V	38	PS	51	PS			74	PS
11	PS	28	0V/5.1V		CD	52	PS	65	5V/0V	75	PS
12	PS		TUNER/CD	39	PS	53	0V		SDK-TONE OFF/ON	76	0V
13	0V	29	0V		CD	54	0V			77	5V
14	0V	30	0V	40	5.1V	55	0V	66	PS	78	5V
15	5.1V/0V	31	5.1V/0V		CD	56	0V	67	0V/5V	79	5V
16	PS	32	0V/5V	41	0V/5.1V	57	0V		O-INT OFF/ON	80	5V
17	5V		TUNER/CD		DISC IN/OUT	58	PS				

IC602

1	5.1V
2	5.1V
3	0V

IC803

1	5.4V
2	5.8V
3	0V

IC901

1	NC	17	NC	33	PS	49	PS
2	NC	18	NC	34	PS	50	PS
3	PS	19	NC	35	PS	51	PS
4	PS	20	NC	36	PS	52	PS
5	PS	21	NC	37	PS	53	PS
6	PS	22	NC	38	PS	54	NC
7	PS	23	NC	39	PS	55	0V
8	PS	24	NC	40	PS	56	5V
9	NC	25	NC	41	PS	57	PS
10	NC	26	NC	42	PS	58	5V
11	NC	27	NC	43	PS	59	PS
12	NC	28	NC	44	PS	60	0V
13	NC	29	PS	45	PS	61	PS
14	NC	30	PS	46	PS	62	PS
15	NC	31	PS	47	PS	63	PS
16	NC	32	PS	48	PS	64	PS

IC902

1	0.1V
2	0V
3	0V
4	0V
5	0V
6	0V
7	0.1V
8	0V

IC1301

1	0V
2	6V
3	0V
4	0V
5	0V
6	0V
7	0V
8	0V
9	0V
10	6V

	E	C	B		E	C	B
Q104	14V	0V	0V	Q810	13.7V	3.3V	13.7V
Q105	0V	0V	0V	Q811	0V	13.7V	0V
Q106	0V	13.6V	0V	Q812	8.5V	0.1V	9.1V
Q107	5.1V	−0.1V	5.1V	Q821	0.6V	0V	0V
Q108	0V	5.1V	0V	Q822	0V	5.4V	5.4V
Q601	0V	5.1V	5.1V	Q823	0.2V	5.2V	5.2V
Q604	5.2V	0V	5.1V	Q826	2.7V	0V	0V
Q606	5.1V	0V	4.9V	Q827	14V	0V	14V
Q607	0V	4.9V	0V	Q830	9.3V	13.8V	10V
Q809	5.1V	0V	5.1V				

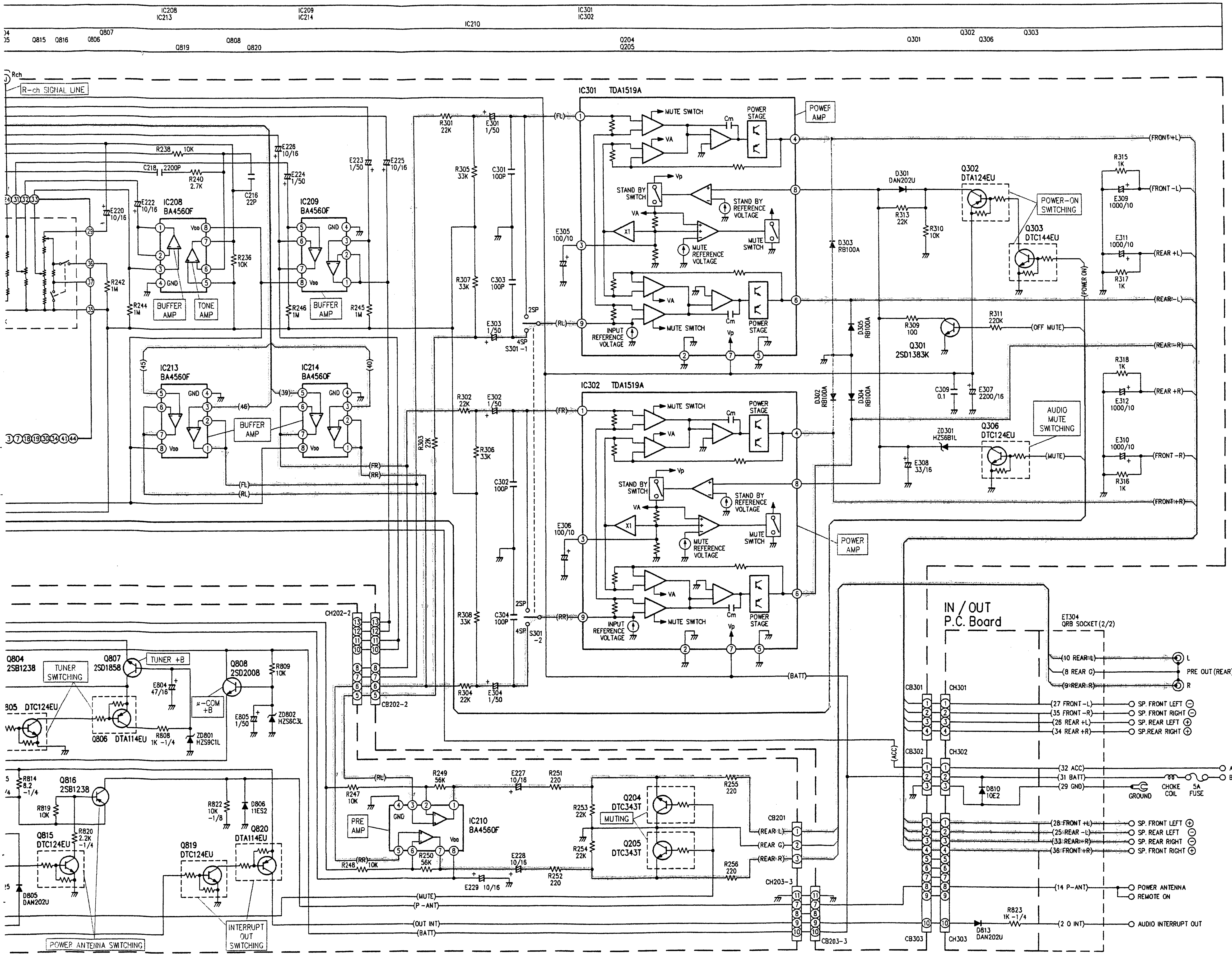
[Measuring Conditions]

* Power Supply Voltage : DC14V
* Measuring Meter : Digital Multi Voltmeter
* Measuring Point Reference : Between Ground
* Measuring Conditions :
  CD : Be playing back the 2nd Music
  of the test CD (YEDS – 18).
  TUNER : No signal input
  FM : 98.1 MHz
  MW : 999 kHz
  LW : 216 kHz

▬ Focus Servo Signal Line
▬ ▬ Tracking Servo Signal Line
▨ Spindle Servo Signal Line
▨ ▨ Sled Servo Signal Line

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$


IC208
IC213
IC209
IC214
IC210
IC301
IC302
Q807
Q815
Q816
Q806
Q819
Q808
Q820
Q204
Q205
Q301
Q302
Q306
Q303
Rch
R-ch SIGNAL LINE
IC301 TDA1519A
IC302 TDA1519A
MUTE SWITCH
POWER STAGE
POWER AMP
VA
STAND BY SWITCH
STAND BY REFERENCE VOLTAGE
MUTE REFERENCE VOLTAGE
MUTE SWITCH
INPUT REFERENCE VOLTAGE
X1
Vp
Cm
R238 10K
C218 2200P
R240 2.7K
C216 22P
E226 10/16
E224 1/50
E223 1/50
E225 10/16
E220 10/16
E222 10/16
IC208 BA4560F
IC209 BA4560F
R236 10K
R242 1M
R244 1M
R246 1M
R245 1M
BUFFER AMP
TONE AMP
GND
VDD
IC213 BA4560F
IC214 BA4560F
R301 22K
E301 1/50
R305 33K
C301 100P
R307 33K
C303 100P
E303 1/50
E305 100/10
2SP
4SP
S301-1
S301-2
R302 22K
E302 1/50
R303 22K
R306 33K
C302 100P
E306 100/10
R308 33K
C304 100P
R304 22K
E304 1/50
(FL)
(RL)
(FR)
(RR)
(BATT)
D301 DAN202U
R313 22K
R310 10K
D303 RB100A
D305 RB100A
D302 RB100A
D304 RB100A
Q302 DTA124EU
POWER-ON SWITCHING
Q303 DTC144EU
R309 100
Q301 2SD1383K
R311 220K
(OFF MUTE)
C309 0.1
E307 2200/16
ZD301 HZS6B1L
E308 33/16
Q306 DTC124EU
AUDIO MUTE SWITCHING
(MUTE)
(POWER ON)
R315 1K
E309 1000/10
E311 1000/10
R317 1K
R318 1K
E312 1000/10
E310 1000/10
R316 1K
(FRONT+L)
(FRONT-L)
(REAR+L)
(REAR-L)
(REAR-R)
(REAR+R)
(FRONT-R)
(FRONT+R)
CH202-2
CB202-2
Q804 2SB1238
Q807 2SD1858
TUNER +B
TUNER SWITCHING
E804 47/16
Q808 2SD2008
R809 10K
μ-COM +B
E805 1/50
ZD802 HZS6C3L
Q805 DTC124EU
Q806 DTA114EU
R808 1K-1/4
ZD801 HZS9C1L
R814 8.2 -1/4
Q816 2SB1238
R819 10K
R820 2.2K -1/4
Q815 DTC124EU
R822 10K -1/8
D806 11ES2
Q819 DTC124EU
Q820 DTA114EU
D805 DAN202U
POWER ANTENNA SWITCHING
INTERRUPT OUT SWITCHING
R247 10K
R249 56K
PRE AMP
IC210 BA4560F
R250 56K
R248 10K
E227 10/16
R251 220
E228 10/16
R252 220
E229 10/16
R253 22K
R254 22K
Q204 DTC343T
Q205 DTC343T
MUTING
R255 220
R256 220
CB201
CH203-3
CB203-3
(REAR-L)
(REAR G)
(REAR-R)
(MUTE)
(P-ANT)
(OUT INT)
IN / OUT P.C. Board
ET304 QRB SOCKET (2/2)
(10 REAR-L)
(8 REAR G)
(9 REAR-R)
PRE OUT (REAR)
L
R
CB301
CH301
(27 FRONT-L)
(35 FRONT-R)
(26 REAR +L)
(34 REAR +R)
SP. FRONT LEFT ⊖
SP. FRONT RIGHT ⊖
SP. REAR LEFT ⊕
SP. REAR RIGHT ⊕
CB302
CH302
(ACC)
(32 ACC)
(31 BATT)
(29 GND)
D810 10E2
ACC
BATTERY
GROUND
CHOKE COIL
5A FUSE
(28 FRONT +L)
(25 REAR -L)
(33 REAR -R)
(36 FRONT +R)
SP. FRONT LEFT ⊕
SP. REAR LEFT ⊖
SP. REAR RIGHT ⊖
SP. FRONT RIGHT ⊕
(14 P-ANT)
POWER ANTENNA
REMOTE ON
R823 1K-1/4
D813 DAN202U
(2 O INT)
AUDIO INTERRUPT OUT
CB303
CH303

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1{,}000{,}000}$

IC206

1	3.8V	13	AD 4.4V	25	AD 4.4V	37	4.4V
2	4.1V	14	AD 4.4V	26	4.4V	38	AD 4.4V
3	0V	15	0V	27	AD 4.4V	39	AD 4.4V
4	AD 4.1V	16	0V	28	4.4V	40	AD 4.4V
5	AD 3.9V	17	0V	29	AD 4.4V	41	NC
6	3.9V	18	0V	30	NC	42	8.3V
7	NC	19	8.3V	31	AD 4.4V	43	8.3V
8	AD 4.4V	20	0V	32	AD 4.4V	44	NC
9	4.4V	21	5V	33	AD 4.4V	45	AD 4.4V
10	AD 4.4V	22	5.1V	34	NC	46	AD 4.4V
11	AD 4.4V	23	0V	35	4.4V	47	AD 4.4V
12	4.4V	24	AD 4.4V	36	3.7V	48	NC

IC207

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC208

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC209

1	4.7V
2	4.7V
3	4.3V
4	0V
5	4.3V
6	4.7V
7	4.7V
8	8.9V

IC210

1	4.7V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.7V
8	8.9V

IC213

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC214

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.8V
6	4.6V
7	4.6V
8	8.9V

IC301

1	2V
2	0V
3	6.7V
4	6.6V
5	0V
6	6.7V
7	14.1V
8	7.5V
9	2V

IC302

1	2V
2	0V
3	6.7V
4	6.7V
5	0V
6	6.7V
7	14.1V
8	7.5V
8	2V

IC801

1	0V
2	0V
3	0V
4	0V
5	4.1V
6	4.1V
7	4.1V
8	8.3V

IC802

1	1.2V
2	0V
3	12.7V

	E	C	B
Q204	13.7V	0V	0V
Q205	13.7V	0V	0V
Q301	0V	7.4V	0.3V
Q302	0V	13.7V	13.8V
Q303	2.7V	0V	0V
Q306	5V	0V	0V
Q801	0V	0V	2.7V
Q803	13.5V	8V	12.5V
Q804	14.4V	13.5V	0V
Q805	0V	0V	0V
Q806	13.5V	9.5V	0V
Q807	9V	13.5V	9.5V
Q808	5.8V	13.8V	6.4V
Q813	13.5V	0V	13.5V
Q814	0V	13.7V	0V
Q815	9.7V	0V	0V
Q816	13.7V	13.7V	13.1V
Q819	0V	13.6V	0V
Q820	13.6V	0V	13.6V

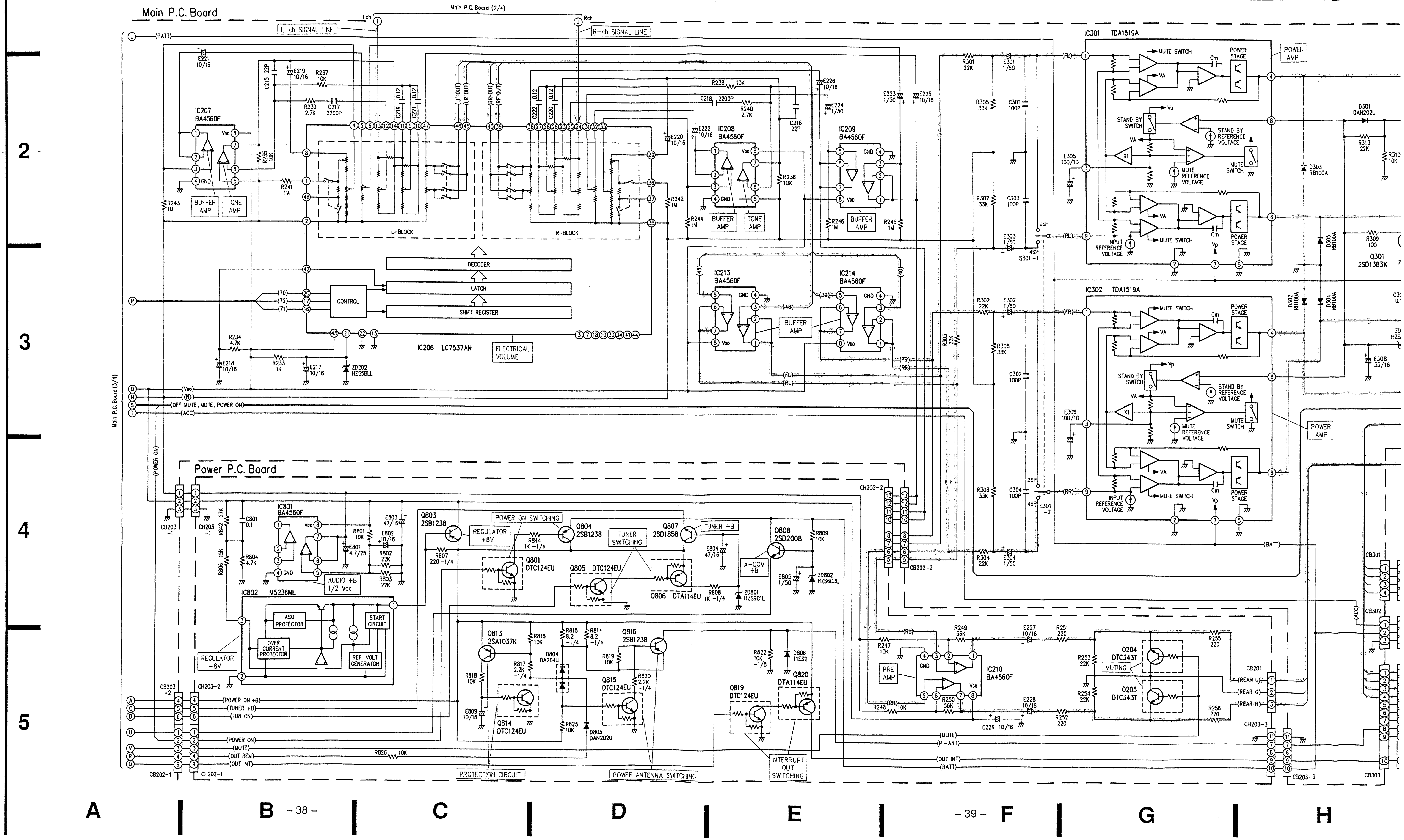
[Measuring Conditions]

- Power Supply Voltage : DC14V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions :
  CD : Be playing back the 2nd Music
  of the test CD (YEDS – 18).
  TUNER : No signal input
  FM : 98.1 MHz
  MW : 999 kHz
  LW : 216 kHz

Schematic Diagram (4/4)

IC: IC207 IC802 IC801 IC206 IC208 IC213 IC209 IC214 IC210 IC301 IC302

Transistor (Q): Q803 Q813 Q814 Q801 Q804 Q805 Q815 Q816 Q807 Q806 Q819 Q808 Q820 Q204 Q205 Q301


Main P.C. Board
Main P.C. Board (2/4)
Main P.C. Board (3/4)
Lch
Rch
L-ch SIGNAL LINE
R-ch SIGNAL LINE
(BATT)
IC207 BA4560F
BUFFER AMP
TONE AMP
IC206 LC7537AN
L-BLOCK
R-BLOCK
DECODER
LATCH
CONTROL
SHIFT REGISTER
ELECTRICAL VOLUME
IC208 BA4560F
IC209 BA4560F
IC213 BA4560F
IC214 BA4560F
ZD202 HZS5BLL
(Voo)
(OFF MUTE, MUTE, POWER ON)
(ACC)
(POWER ON)
IC301 TDA1519A
IC302 TDA1519A
MUTE SWITCH
POWER STAGE
POWER AMP
STAND BY SWITCH
STAND BY REFERENCE VOLTAGE
MUTE REFERENCE VOLTAGE
INPUT REFERENCE VOLTAGE
S301-1
S301-2
2SP
4SP
D301 DAN202U
D302 RB100A
D303 RB100A
D304 RB100A
D305 RB100A
Q301 2SD1383K
Power P.C. Board
IC801 BA4560F
AUDIO +B 1/2 Vcc
IC802 M5236ML
ASO PROTECTOR
OVER CURRENT PROTECTOR
START CIRCUIT
REF. VOLT GENERATOR
REGULATOR +8V
Q803 2SB1238
Q804 2SB1238
Q807 2SD1858
Q808 2SD2008
Q801 DTC124EU
Q805 DTC124EU
Q806 DTA114EU
POWER ON SWITCHING
TUNER SWITCHING
TUNER +B
μ-COM +B
ZD801 HZS9C1L
ZD802 HZS6C3L
Q813 2SA1037K
Q814 DTC124EU
Q815 DTC124EU
Q816 2SB1238
Q819 DTC124EU
Q820 DTA114EU
D804 DA204U
D805 DAN202U
D806 11ES2
PROTECTION CIRCUIT
POWER ANTENNA SWITCHING
INTERRUPT OUT SWITCHING
(POWER ON +B)
(TUNER +B)
(TUN ON)
(MUTE)
(OUT REM)
(OUT INT)
(P-ANT)
(BATT)
IC210 BA4560F
PRE AMP
Q204 DTC343T
Q205 DTC343T
MUTING
(REAR L)
(REAR G)
(REAR R)
CB201
CB202-1
CB202-2
CB203-1
CB203-2
CB203-3
CH202-1
CH202-2
CH203-1
CH203-2
CH203-3
CB301
CB302
CB303
1
2
3
4
5
A
B
C
D
E
F
G
H

Electrical Parts List

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.

Capacitor : μF = microfarads, pF = picofarads

Abbreviations

RES. =	Resistor	CAP. =	Capacitor
C.F. =	Carbon Film	ELY. =	Electrolytic
M.F. =	Metal Film	CER. =	Ceramic
M.O. =	Metal Oxide Film	MYL. =	Mylar
M.P. =	Metal Plate	TAN. =	Tantalum
TR. =	Transistor	POLY. =	Polystyrol
TRANS. =	Transformer	PP. =	Polypropylene
CP. =	Chip	PLT. =	Polyethylene
		PF. =	Polyester Film

Main P. C. Board

IC's

Symbol No.	Part No.	Description
IC001	51T94316F02	AN7465S
IC002	51T93333F01	NJM2904M
IC003	51T96030F01	μPC1675G
IC004	51T35246W01	35246W01
IC005	51T15655W02	TDA1579T
IC101	51T25985W01	TC9236F
IC102	51T25984W01	TA8191F
IC103	51T15264W01	TCA0372M
IC104	51T15264W01	TCA0372M
IC105	51T90889F03	LA6501-TL
IC106	51T35105W02	SM5840CS
IC109	51T35229W01	TC7SU04F
IC201	51T35409W03	PCM67U
IC202	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC203	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC204	51T15270W01	BU4052BF
IC205	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC206	51T72016F02	LC7537AN
IC207	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC208	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC209	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC213	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC214	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC301	51T35408W01	TDA1519A
IC302	51T35408W01	TDA1519A
IC601	51T35139W01	35139W01
IC602	51T95014F13	S-8052HNM-CR
IC701	51T15510W01	MC34063M
IC803	51T92166F02	S-8054ALO

Transistors

Symbol No.	Part No.	Description
Q004	48T94606F05	CP., DTC114TU
Q005	48T94606F53	CP., DTA124EU
Q006	48T94606F03	CP., DTC124EU
Q007	48T90181F05	2SD1993
Q009	48T90181F05	2SD1993
Q010	48T94606F03	CP., DTC124EU
Q011	48T94606F03	CP., DTC124EU
Q012	48T94606F03	CP., DTC124EU
Q013	48T84234F03	2SB1238
Q014	48T84234F03	2SB1238
Q015	48T94606F03	CP., DTC124EU
Q016	48T94606F03	CP., DTC124EU
Q017	48T52438F01	CP., 2SD601A
Q018	48T94606F03	CP., DTC124EU
Q019	48T94606F05	CP., DTC114TU
Q020	48T94606F05	CP., DTC114TU
Q101	48T94606F03	CP., DTC124EU
Q102	48T63420F01	CP., 2SA1037K
Q103	48T84234F03	2SB1238
Q104	48T84238F03	2SB1240
Q105	48T81552F01	2SD1383K
Q106	48T94606F03	CP., DTC124EU
Q107	48T94606F56	CP., DTA114EU
Q108	48T94606F01	CP., DTC144EU
Q110	48T94606F06	CP., DTC114EU
Q111	48T52438F01	CP., 2SD601A
Q112	48T94606F05	CP., DTC114TU
Q113	48T94606F05	CP., DTC114TU
Q114	48T94606F03	CP., DTC124EU
Q115	48T94606F53	CP., DTA124EU
Q116	48T94606F03	CP., DTC124EU
Q201	48T52438F01	CP., 2SD601A
Q202	48T94606F01	CP., DTC144EU
Q203	48T94606F01	CP., DTC144EU
Q301	48T81552F01	2SD1383K
Q302	48T94606F53	CP., DTA124EU
Q303	48T94606F01	CP., DTC144EU
Q306	48T94606F03	CP., DTC124EU
Q601	48T94606F53	CP., DTA124EU
Q604	48T94606F53	CP., DTA124EU
Q606	48T94606F53	CP., DTA124EU
Q607	48T94606F03	CP., DTC124EU
Q701	48T94606F03	CP., DTC124EU

Symbol No.	Part No.	Description
Q702	48T94606F53	CP., DTA124EU
Q703	48T35437W01	2SB1182TL
Q704	48T83415F03	2SD1858
Q809	48T94606F56	CP., DTA114EU
Q810	48T94606F53	CP., DTA124EU
Q811	48T94606F03	CP., DTC124EU
Q812	48T63420F01	CP., 2SA1037K
Q821	48T52438F01	CP., 2SD601A
Q822	48T94606F56	CP., DTA114EU
Q823	48T94606F53	CP., DTA124EU
Q826	48T94606F03	CP., DTC124EU
Q827	48T94606F53	CP., DTA124EU
Q830	48T15289W03	2SD2008

Diodes

D001	48T94608F03	CP., DAN202U
D002	48T94608F03	CP., DAN202U
D003	48T94608F03	CP., DAN202U
D004	48T94608F03	CP., DAN202U
D005	48T94608F03	CP., DAN202U
D007	48T94608F03	CP., DAN202U
D101	48T84052F11	11ES2
D102	48T94608F03	CP., DAN202U
D103	48T94608F03	CP., DAN202U
D104	48T94608F03	CP., DAN202U
D301	48T94608F03	CP., DAN202U
D302	48T25664W02	RB100A
D303	48T25664W02	RB100A
D304	48T25664W02	RB100A
D305	48T25664W02	RB100A
D602	48T94608F03	CP., DAN202U
D603	48T94608F03	CP., DAN202U
D701	48T15702W01	CP., SB05-05CP
D801	48T94608F03	CP., DAN202U
D802	48T94608F03	CP., DAN202U
D803	48T84052F11	11ES2
D807	48T94608F03	CP., DAN202U
D808	48T94608F03	CP., DAN202U
D809	48T94608F03	CP., DAN202U

Symbol No.	Part No.	Description
ZD002	48T25766W24	Zener, HZS9C1L
ZD201	48T25766W04	Zener, HZS6B1L
ZD202	48T25801W11	Zener, HZS5BLL
ZD301	48T25766W04	Zener, HZS6B1L
ZD601	48T25801W11	Zener, HZS5BLL
ZD701	48T25766W04	Zener, HZS6B1L
ZD803	48T25766W24	Zener, HZS9C1L
ZD804	48T25766W04	Zener, HZS6B1L
ZD807	48T45012W47	Zener, MTZJ10D
or	48T25766W29	Zener, HZS11A3L

Coils / Switch

L002	24T84175F01	SDK (57KHz)
L701	24T71179F05	Inductor, 220μH
L702	24T16271W13	220μH
S301	40T72577F02	Switch, Slide SSSS-2H (2SP / 4SP)

Crystals / Thermistor

X001	91T25806W23	4.5MHz
X101	91T25806W92	16.9344MHz
X601	91T15285W01	CER., Lock 4.19MHz
TH601	48T93439F06	Thermistor, 100K ohm

Capacitors

C001	08S65128F69	CP.,	0.01μF
E001	23S61523F09	ELY.,	22μF / 10V
C002	08S65128F67	CP.,	6800pF
E002	23S61523F25	ELY.,	0.1μF / 50V
C003	08T35388W30	TF,	390pF
E003	23S61523F25	ELY.,	0.1μF / 50V
C004	08S65128F74	CP.,	0.047μF
E004	23S61523F26	ELY.,	0.22μF / 50V
C005	08S65128F74	CP.,	0.047μF
E005	23S61523F29	ELY.,	1μF / 50V

Symbol No.	Part No.	Description
C006	08S65128F63	CP., 3300pF
E006	23S61523F25	ELY., 0.1μF / 50V
C007	08S65128F69	CP., 0.01μF
E007	23T25149W15	ELY., 4.7μF / 35V
C008	08S82122F47	CP., 270pF
E008	23T25149W15	ELY., 4.7μF / 35V
C009	08S65128F69	CP., 0.01μF
C010	08S65128F77	CP., 0.018μF
E010	23S61523F29	ELY., 1μF / 50V
C011	08S65128F77	CP., 0.018μF
E011	23S61523F29	ELY., 1μF / 50V
E013	23T16086W01	ELY., 220μF / 10V
E014	23S61523F29	ELY., 1μF / 50V
E015	23S61523F29	ELY., 1μF / 50V
E016	23S61523F09	ELY., 22μF / 10V
C017	08S65128F57	CP., 1000pF
E017	23S61523F08	ELY., 100μF / 6.3V
C018	08S65128F69	CP., 0.01μF
E018	23S61523F17	ELY., 4.7μF / 25V
C019	08S65128F72	CP., 0.022μF
E019	23S61523F25	ELY., 0.1μF / 50V
C020	08S65128F79	CP., 0.027μF
E020	23S61523F29	ELY., 1μF / 50V
C021	08S65128F63	CP., 3300pF
E021	23S61523F29	ELY., 1μF / 50V
C022	08T90316F22	TF, 0.027μF
E022	23S61523F25	ELY., 0.1μF / 50V
C023	08S65128F69	CP., 0.01μF
E023	23S61523F27	ELY., 0.33μF / 50V
C024	08S65128F69	CP., 0.01μF
E024	23S61523F12	ELY., 10μF / 16V
C026	08T15399W02	CP., 0.033μF
C027	08T15399W02	CP., 0.033μF
C028	08T15399W02	CP., 0.033μF
C029	08S65128F57	CP., 1000pF
C030	08S65128F69	CP., 0.01μF
C031	08S65128F69	CP., 0.01μF
C032	08S82122F25	CP., 33pF
C033	08S65128F57	CP., 1000pF
C034	08S65128F69	CP., 0.01μF
C035	08S65128F69	CP., 0.01μF
C036	08S65128F72	CP., 0.022μF
C037	08S82122F37	CP., 100pF
C038	08S82122F37	CP., 100pF
C039	08S82122F37	CP., 100pF
C040	08S82122F21	CP., 22pF
C041	08S82122F21	CP., 22pF
C042	08S65128F59	CP., 1500pF
C043	08T90316F28	TF, 0.082μF
C044	08T90316F27	TF, 0.068μF
C045	08T90316F27	TF, 0.068μF
C046	08T90316F29	TF, 0.1μF

Symbol No.	Part No.	Description
C047	08T90316F25	TF, 0.047μF
C048	08T90316F25	TF, 0.047μF
C049	08T90316F23	TF, 0.033μF
C050	08S65128F57	CP., 1000pF
C101	08S65128F69	CP., 0.01μF
E101	23S61523F08	ELY., 100μF / 6.3V
E102	23S61523F12	ELY., 10μF / 16V
C103	08S82122F13	CP., 10pF
E103	23S61523F12	ELY., 10μF / 16V
C104	08S82122F13	CP., 10pF
E104	23T74437F32	TAN., 10μF / 16V
C105	08S65128F63	CP., 3300pF
E105	23S61523F31	ELY., 3.3μF / 50V
C106	08S65128F63	CP., 3300pF
E106	23S61523F12	ELY., 10μF / 16V
C107	08S82122F37	CP., 100pF
E107	23T74437F32	TAN., 10μF / 16V
C108	08S65128F69	CP., 0.01μF
E108	23S61523F11	ELY., 47μF / 10V
C109	08S65128F69	CP., 0.01μF
E109	23S61523F11	ELY., 47μF / 10V
C110	08S65128F69	CP., 0.01μF
C111	08S65128F57	CP., 1000pF
C113	08S65128F78	CP., 0.022μF
C114	08S65128F64	CP., 3900pF
C115	08T15807W05	CP., 0.1μF
C116	08S82122F45	CP., 220pF
C117	08S65128F62	CP., 2700pF
E117	23S61523F28	ELY., 0.47μF / 50V
C118	08T15399W03	CP., 0.047μF
E118	23T74437F32	TAN., 10μF / 16V
C119	08S82122F31	CP., 56pF
E119	23T74437F32	TAN., 10μF / 16V
C120	08S65128F69	CP., 0.01μF
E120	23S61523F12	ELY., 10μF / 16V
C121	08S82122F15	CP., 12pF
E121	23S61523F12	ELY., 10μF / 16V
C122	08S65128F69	CP., 0.01μF
C123	08T15807W05	CP., 0.1μF
C124	08S82122F06	CP., 3pF
C125	08S65128F69	CP., 0.01μF
C126	08T15807W05	CP., 0.1μF
C127	08T15807W05	CP., 0.1μF
C128	08S65128F69	CP., 0.01μF
E128	23T74437F32	TAN., 10μF / 16V
C129	08S65128F69	CP., 0.01μF
C130	08S65128F65	CP., 4700pF
C131	08S65128F74	CP., 0.047μF
C132	08S65128F74	CP., 0.047μF
C133	08S65128F69	CP., 0.01μF
C140	08S65128F65	CP., 4700pF
E140	23T74437F32	TAN., 10μF / 16V

Symbol No.	Part No.	Description
C141	08T15807W05	CP., 0.1μF
E141	23T74437F32	TAN., 10μF / 16V
C142	08S65128F60	CP., 1800pF
C143	08S65128F69	CP., 0.01μF
C201	08S82122F49	CP., 330pF
E201	23T25149W09	ELY., 10μF / 16V
C202	08S82122F49	CP., 330pF
E202	23T25149W09	ELY., 10μF / 16V
C203	08T90316F15	TF, 6800pF
E203	23T25149W09	ELY., 10μF / 16V
C204	08T90316F15	TF, 6800pF
E204	23T25149W09	ELY., 10μF / 16V
C205	08S82122F49	CP., 330pF
E205	23T25149W09	ELY., 10μF / 16V
C206	08S82122F49	CP., 330pF
E206	23T25149W09	ELY., 10μF / 16V
C207	08T90316F16	TF, 8200pF
E207	23T25149W09	ELY., 10μF / 16V
C208	08T90316F16	TF, 8200pF
E208	23T25149W09	ELY., 10μF / 16V
C209	08S82122F37	CP., 100pF
E209	23T25149W15	ELY., 4.7μF / 35V
C210	08S82122F37	CP., 100pF
E210	23T25149W12	ELY., 47μF / 16V
C211	08S82122F21	CP., 22pF
E211	23T25149W09	ELY., 10μF / 16V
C212	08S82122F21	CP., 22pF
E212	23T25149W09	ELY., 10μF / 16V
C213	08S65128F78	CP., 0.022μF
E213	23T74437F32	TAN., 10μF / 16V
C214	08S65128F69	CP., 0.01μF
C215	08S82122F21	CP., 22pF
E215	23T25149W09	ELY., 10μF / 16V
C216	08S82122F21	CP., 22pF
E216	23T25149W09	ELY., 10μF / 16V
C217	08T90316F09	TF, 2200pF
E217	23T25149W09	ELY., 10μF / 16V
C218	08T90316F09	TF, 2200pF
E218	23T25149W09	ELY., 10μF / 16V
C219	08T90316F30	TF, 0.12μF
E219	23T25149W09	ELY., 10μF / 16V
C220	08T90316F30	TF, 0.12μF
E220	23T25149W09	ELY., 10μF / 16V
C221	08T90316F30	TF, 0.12μF
E221	23T25149W09	ELY., 10μF / 16V
C222	08T90316F30	TF, 0.12μF
E222	23T25149W09	ELY., 10μF / 16V
E223	23T25149W05	ELY., 1μF / 50V
E224	23T25149W05	ELY., 1μF / 50V
E225	23T25149W09	ELY., 10μF / 16V
E226	23T25149W09	ELY., 10μF / 16V
C227	08S65128F69	CP., 0.01μF

Symbol No.	Part No.	Description
C228	08S65128F69	CP., 0.01μF
C301	08S82122F37	CP., 100pF
E301	23T25149W05	ELY., 1μF / 50V
C302	08S82122F37	CP., 100pF
E302	23T25149W05	ELY., 1μF / 50V
C303	08S82122F37	CP., 100pF
E303	23T25149W05	ELY., 1μF / 50V
C304	08S82122F37	CP., 100pF
E304	23T25149W05	ELY., 1μF / 50V
E305	23T94181F08	ELY., 100μF / 10V
E306	23T94181F08	ELY., 100μF / 10V
E307	23T35505W02	ELY., 2200μF / 16V
E308	23S61523F14	ELY., 33μF / 16V
C309	08T90316F29	TF, 0.1μF
E309	23T35463W18	ELY., 1000μF / 10V
E310	23T35463W18	ELY., 1000μF / 10V
E311	23T35463W18	ELY., 1000μF / 10V
E312	23T35463W18	ELY., 1000μF / 10V
E602	23S61523F12	ELY., 10μF / 16V
E603	23S61523F09	ELY., 22μF / 10V
C701	08S82122F39	CP., 120pF
E701	23S82482F02	ELY., 100μF / 16V
C702	08S65128F76	CP., 0.1μF
E702	23T16086W02	ELY., 330μF / 6.3V
E703	23T25149W15	ELY., 4.7μF / 35V
E704	23S61523F12	ELY., 10μF / 16V
E806	23S61523F28	ELY., 0.47μF / 50V
E807	23S61523F12	ELY., 10μF / 16V
E808	23S61523F12	ELY., 10μF / 16V
E810	23S61523F29	ELY., 1μF / 50V
E811	23S61523F08	ELY., 100μF / 6.3V
E812	23T16086W02	ELY., 330μF / 6.3V
E814	23S61523F29	ELY., 1μF / 50V
E815	23S61523F29	ELY., 1μF / 50V
C992	23T82372F19	ELY., (B.P) 2.2μF / 50V

Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)

R001	06S64996F18	470K ohm
R002	06T70072F05	10 ohm 1/4W
R003	06S64995F79	12K ohm
R004	06S64995F65	3.3K ohm
R005	06S64995F57	1.5K ohm
R006	06S64996F26	1M ohm
R007	06S64995F69	4.7K ohm

Symbol No.	Part No.	Description
R008	06S64995F65	3.3K ohm
R009	06S64995F81	15K ohm
R010	06S64995F93	47K ohm
R011	06S64996F02	100K ohm
R018	06S64995F77	10K ohm
R019	06S64995F81	15K ohm
R020	06S64995F95	56K ohm
R021	06S64995F87	27K ohm
R022	06S64995F87	27K ohm
R023	06S64996F02	100K ohm
R024	06S64996F02	100K ohm
R025	06S64995F85	22K ohm
R026	06S64996F20	560K ohm
R027	06S64996F14	330K ohm
R028	06S64995F41	330 ohm
R029	06S64996F26	1M ohm
R030	06S64996F02	100K ohm
R031	06S64995F81	15K ohm
R032	06S64995F77	10K ohm
R033	06S64995F77	10K ohm
R034	06S64996F02	100K ohm
R035	06S64995F95	56K ohm
R036	06S64995F95	56K ohm
R037	06S64996F02	100K ohm
R038	06S64996F02	100K ohm
R039	06S64995F83	18K ohm
R040	06S64995F83	18K ohm
R041	06S64995F85	22K ohm
R042	06S64995F77	10K ohm
R043	06S64995F53	1K ohm
R044	06S64995F85	22K ohm
R045	06S64996F02	100K ohm
R046	06S64995F77	10K ohm
R047	06S64995F29	100 ohm
R048	06S64995F15	27 ohm
R049	06S64995F53	1K ohm
R050	06S64995F05	10 ohm
R051	06S64995F53	1K ohm
R052	06S64995F65	3.3K ohm
R053	06S64995F53	1K ohm
R054	06S64995F75	8.2K ohm
R056	06S64995F61	2.2K ohm
R057	06S64995F61	2.2K ohm
R058	06S64995F61	2.2K ohm
R059	06T70072F37	220 ohm 1/4W
R060	06S64995F53	1K ohm
R061	06S64995F77	10K ohm
R062	06S64995F53	1K ohm
R063	06S64995F65	3.3K ohm
R064	06T70072F41	330 ohm 1/4W
R065	06S64995F77	10K ohm
R066	06S64995F77	10K ohm

Symbol No.	Part No.	Description
R067	06S64995F77	10K ohm
R068	06S64995F71	5.6K ohm
R070	06S64996F02	100K ohm
R071	06S64995F77	10K ohm
R072	06S64995F77	10K ohm
R073	06S64995F61	2.2K ohm
R074	06S64995F65	3.3K ohm
R075	06S64995F61	2.2K ohm
R080	06S64995F69	4.7K ohm
R081	06S64996F10	220K ohm
R082	06S64996F22	680K ohm
R083	06S64995F43	390 ohm
R084	06S64996F02	100K ohm
R085	06S64995F69	4.7K ohm
R086	06S64995F93	47K ohm
R087	06S64995F97	68K ohm
R088	06S64995F77	10K ohm
R089	06S64995F97	68K ohm
R090	06S64995F91	39K ohm
R091	06S64996F10	220K ohm
R092	06S64995F77	10K ohm
R093	06S64995F97	68K ohm
R094	06S64996F22	680K ohm
R095	06S64996F04	120K ohm
R096	06S64995F51	820 ohm
R097	06S64995F73	6.8K ohm
R098	06S64995F73	6.8K ohm
R099	06S64995F77	10K ohm
R101	06S64995F73	6.8K ohm
R102	06S64996F18	470K ohm
R103	06S64995F39	270 ohm
R105	06S64995F89	33K ohm
R106	06S64995F85	22K ohm
R107	06S64996F10	220K ohm
R108	06S64996F02	100K ohm
R109	06S64995F83	18K ohm
R110	06S64995F57	1.5K ohm
R111	06S64995F83	18K ohm
R112	06S64995F91	39K ohm
R113	06S64995F53	1K ohm
R114	06S64996F10	220K ohm
R115	06S64995F77	10K ohm
R116	06S64995F93	47K ohm
R117	06S64996F30	2.2M ohm
R118	06S64995F89	33K ohm
R119	06S64995F95	56K ohm
R120	06S64995F77	10K ohm
R121	06S64995F87	27K ohm
R122	06S64995F63	2.7K ohm
R123	06S64996F12	270K ohm
R124	06S64995F83	18K ohm
R125	06S64996F02	100K ohm

Symbol No.	Part No.	Description
R126	06S64995F77	10K ohm
R127	06S64996F04	120K ohm
R128	06S64996F02	100K ohm
R129	06S64995F81	15K ohm
R130	06S64995F85	22K ohm
R131	06S64995F77	10K ohm
R132	06S64995F77	10K ohm
R133	06S64995F77	10K ohm
R134	06S64996F20	560K ohm
R135	06S64996F02	100K ohm
R136	06S64995F61	2.2K ohm
R137	06S64995F77	10K ohm
R138	06S64995F69	4.7K ohm
R139	06S64995F69	4.7K ohm
R140	06S64995F69	4.7K ohm
R141	06T70072F05	10 ohm 1/4W
R144	06S64995F53	1K ohm
R145	06S64995F47	560 ohm
R146	06S64995F81	15K ohm
R147	06S64995F97	68K ohm
R148	06S64995F85	22K ohm
R149	06S64995F77	10K ohm
R150	06S64995F77	10K ohm
R151	06S64995F85	22K ohm
R152	06S64995F85	22K ohm
R153	06S64995F77	10K ohm
R154	06S64995F77	10K ohm
R155	06S64995F85	22K ohm
R156	06S64995F85	22K ohm
R157	06S64995F77	10K ohm
R158	06S64995F77	10K ohm
R159	06S64995F85	22K ohm
R160	06S64995F85	22K ohm
R161	06S64995F77	10K ohm
R162	06S64995F77	10K ohm
R163	06S64995F85	22K ohm
R164	06S64995F77	10K ohm
R165	06S64995F85	22K ohm
R166	06S64995F05	10 ohm
R167	06S64996F04	120K ohm
R168	06S64995F05	10 ohm
R169	06S64995F53	1K ohm
R170	06S64995F53	1K ohm
R171	06S64995F53	1K ohm
R172	06S64995F53	1K ohm
R173	06S64995F53	1K ohm
R174	06S64995F77	10K ohm
R175	06S64995F77	10K ohm
R176	06T70072F53	1K ohm 1/4W
R177	06S64996F18	470K ohm
R179	06S64995F63	2.7K ohm
R180	06S64995F77	10K ohm

Symbol No.	Part No.	Description
R181	06S64996F02	100K ohm
R183	06S64996F10	220K ohm
R185	06S64995F83	18K ohm
R186	06S64995F53	1K ohm
R187	06S64995F53	1K ohm
R188	06S64995F65	3.3K ohm
R189	06S64996F18	470K ohm
R190	06S64995F93	47K ohm
R191	06S64995F85	22K ohm
R192	06S64995F77	10K ohm
R193	06S64995F53	1K ohm
R194	06S64995F53	1K ohm
R195	06S64995F53	1K ohm
R201	06S64995F55	1.2K ohm
R202	06S64995F55	1.2K ohm
R203	06S64995F61	2.2K ohm
R204	06S64995F61	2.2K ohm
R205	06S64995F61	2.2K ohm
R206	06S64995F61	2.2K ohm
R207	06S64995F77	10K ohm
R208	06S64995F05	10 ohm
R209	06S64995F67	3.9K ohm
R210	06S64995F67	3.9K ohm
R211	06S64995F89	33K ohm
R212	06S64995F89	33K ohm
R213	06S64995F55	1.2K ohm
R214	06S64995F55	1.2K ohm
R215	06S64995F77	10K ohm
R216	06S64995F77	10K ohm
R217	06S64995F55	1.2K ohm
R218	06S64995F55	1.2K ohm
R219	06S64995F85	22K ohm
R220	06S64995F85	22K ohm
R221	06S64995F85	22K ohm
R222	06S64995F85	22K ohm
R223	06S64995F71	5.6K ohm
R224	06S64995F71	5.6K ohm
R225	06S64995F97	68K ohm
R226	06S64995F97	68K ohm
R227	06S64995F85	22K ohm
R228	06S64995F85	22K ohm
R229	06S64996F02	100K ohm
R230	06S64996F02	100K ohm
R231	06S64995F93	47K ohm
R232	06S64995F73	6.8K ohm
R233	06S64995F53	1K ohm
R234	06S64995F69	4.7K ohm
R235	06S64995F77	10K ohm
R236	06S64995F77	10K ohm
R237	06S64995F77	10K ohm
R238	06S64995F77	10K ohm
R239	06S64995F63	2.7K ohm

Symbol No.	Part No.	Description
R240	06S64995F63	2.7K ohm
R241	06S64996F26	1M ohm
R242	06S64996F26	1M ohm
R243	06S64996F26	1M ohm
R244	06S64996F26	1M ohm
R245	06S64996F26	1M ohm
R246	06S64996F26	1M ohm
R301	06S64995F85	22K ohm
R302	06S64995F85	22K ohm
R303	06S64995F85	22K ohm
R304	06S64995F85	22K ohm
R305	06S64995F89	33K ohm
R306	06S64995F89	33K ohm
R307	06S64995F89	33K ohm
R308	06S64995F89	33K ohm
R309	06S64995F29	100 ohm
R310	06S64995F77	10K ohm
R311	06S64996F10	220K ohm
R313	06S64995F85	22K ohm
R315	06S64995F53	1K ohm
R316	06S64995F53	1K ohm
R317	06S64995F53	1K ohm
R318	06S64995F53	1K ohm
R601	06S64996F02	100K ohm
R602	06S64995F77	10K ohm
R603	06S64995F77	10K ohm
R604	06S64995F77	10K ohm
R608	06S64995F89	33K ohm
R609	06S64995F69	4.7K ohm
R610	06S64996F02	100K ohm
R612	06S64996F02	100K ohm
R613	06S64996F02	100K ohm
R614	06S64995F77	10K ohm
R615	06S64995F85	22K ohm
R616	06S64996F02	100K ohm
R617	06S64995F77	10K ohm
R618	06S64995F77	10K ohm
R619	06S64995F77	10K ohm
R620	06S64995F77	10K ohm
R621	06S64995F77	10K ohm
R622	06S64996F02	100K ohm
R624	06S64996F02	100K ohm
R626	06S64996F02	100K ohm
R628	06S64996F02	100K ohm
R629	06S64995F89	33K ohm
R630	06S64996F02	100K ohm
R631	06S64996F02	100K ohm
R632	06S64995F85	22K ohm
R633	06S64996F02	100K ohm
R701	06S64995F63	2.7K ohm
R702	06T70072F29	100 ohm 1/4W
R703	06T70072F47	560 ohm 1/4W

Symbol No.	Part No.	Description
R704	06T70072F47	560 ohm 1/4W
R705	06T70072F45	470 ohm 1/4W
R706	06S64995F81	15K ohm
R810	06S64995F85	22K ohm
R811	06S64995F77	10K ohm
R812	06S64996F10	220K ohm
R813	06S64995F61	2.2K ohm
R827	06T70072F65	3.3K ohm 1/4W
R828	06S53330F93	47K ohm 1/8W
R829	06S64995F77	10K ohm
R830	06S64996F02	100K ohm
R831	06S64995F77	10K ohm
R832	06S64995F99	82K ohm
R835	06S64995F77	10K ohm
R839	06T70072F45	470 ohm 1/4W
R843	06S64995F77	10K ohm
R845	06S64996F02	100K ohm
R846	06T70072F09	15 ohm 1/4W
R930	06T70072F13	22 ohm 1/4W
VR001	18T15355W11	Variable, 4.7K ohm
VR002	18T15356W09	Variable, 2.2K ohm
VR003	18T15356W14	Variable, 15K ohm
VR004	18T15356W03	Variable, 220 ohm
VR101	18T15355W20	Variable, 150K ohm
VR102	18T15356W14	Variable, 15K ohm
VR103	18T15356W09	Variable, 2.2K ohm

Power P. C. Board

IC's

IC210	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC801	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC802	51T90890F01	M5236ML

Transistors

Q204	48T62967F33	CP., DTC343T
Q205	48T62967F33	CP., DTC343T
Q801	48T94606F03	CP., DTC124EU
Q803	48T84234F03	2SB1238
Q804	48T84234F03	2SB1238

Symbol No.	Part No.	Description
Q805	48T94606F03	CP., DTC124EU
Q806	48T94606F56	CP., DTA114EU
Q807	48T83415F03	2SD1858
Q808	48T15289W03	2SD2008
Q813	48T63420F01	CP., 2SA1037K
Q814	48T94606F03	CP., DTC124EU
Q815	48T94606F03	CP., DTC124EU
Q816	48T84234F03	2SB1238
Q819	48T94606F03	CP., DTC124EU
Q820	48T94606F56	CP., DTA114EU

Diodes

D804	48T94608F01	CP., DA204U
D805	48T94608F03	CP., DAN202U
D806	48T84052F11	11ES2
ZD801	48T25766W24	Zener, HZS9C1L
ZD802	48T25766W09	Zener, HZS6C3L

Capacitors

E227	23T25149W09	ELY., 10μF / 16V
E228	23T25149W09	ELY., 10μF / 16V
E229	23T25149W09	ELY., 10μF / 16V
C801	08S65128F76	CP., 0.1μF
E801	23T25057W09	ELY., 4.7μF / 25V
E802	23T25057W05	ELY., 10μF / 16V
E803	23T25057W08	ELY., 47μF / 16V
E804	23T25057W08	ELY., 47μF / 16V
E805	23T25057W14	ELY., 1μF / 50V
E809	23T25057W05	ELY., 10μF / 16V

Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)

R247	06S64995F77	10K ohm
R248	06S64995F77	10K ohm
R249	06S64995F95	56K ohm
R250	06S64995F95	56K ohm
R251	06S64995F37	220 ohm

Symbol No.	Part No.	Description
R252	06S64995F37	220 ohm
R253	06S64995F85	22K ohm
R254	06S64995F85	22K ohm
R255	06S64995F37	220 ohm
R256	06S64995F37	220 ohm
R801	06S64995F77	10K ohm
R802	06S64995F85	22K ohm
R803	06S64995F85	22K ohm
R804	06S64995F69	4.7K ohm
R806	06S64995F81	15K ohm
R807	06T70072F37	220 ohm 1/4W
R808	06T70072F53	1K ohm 1/4W
R809	06S64995F77	10K ohm
R814	06T70072F04	8.2 ohm 1/4W
R815	06T70072F04	8.2 ohm 1/4W
R816	06S64995F77	10K ohm
R817	06T70072F61	2.2K ohm 1/4W
R818	06S64995F77	10K ohm
R819	06S64995F77	10K ohm
R820	06T70072F61	2.2K ohm 1/4W
R822	06S53330F77	10K ohm 1/8W
R825	06S64995F77	10K ohm
R826	06S64995F77	10K ohm
R842	06S64995F87	27K ohm
R844	06T70072F53	1K ohm 1/4W

Front P. C. Board

IC's

IC901	51T83905F01	LC7582A
IC902	51T35410W02	BA226F

Lamps

PL901	65T25230W01	Pilot, 6.7V-85mA
PL902	65T35507W01	10V-60mA
PL903	65T35507W01	10V-60mA
PL904	65T35507W01	10V-60mA

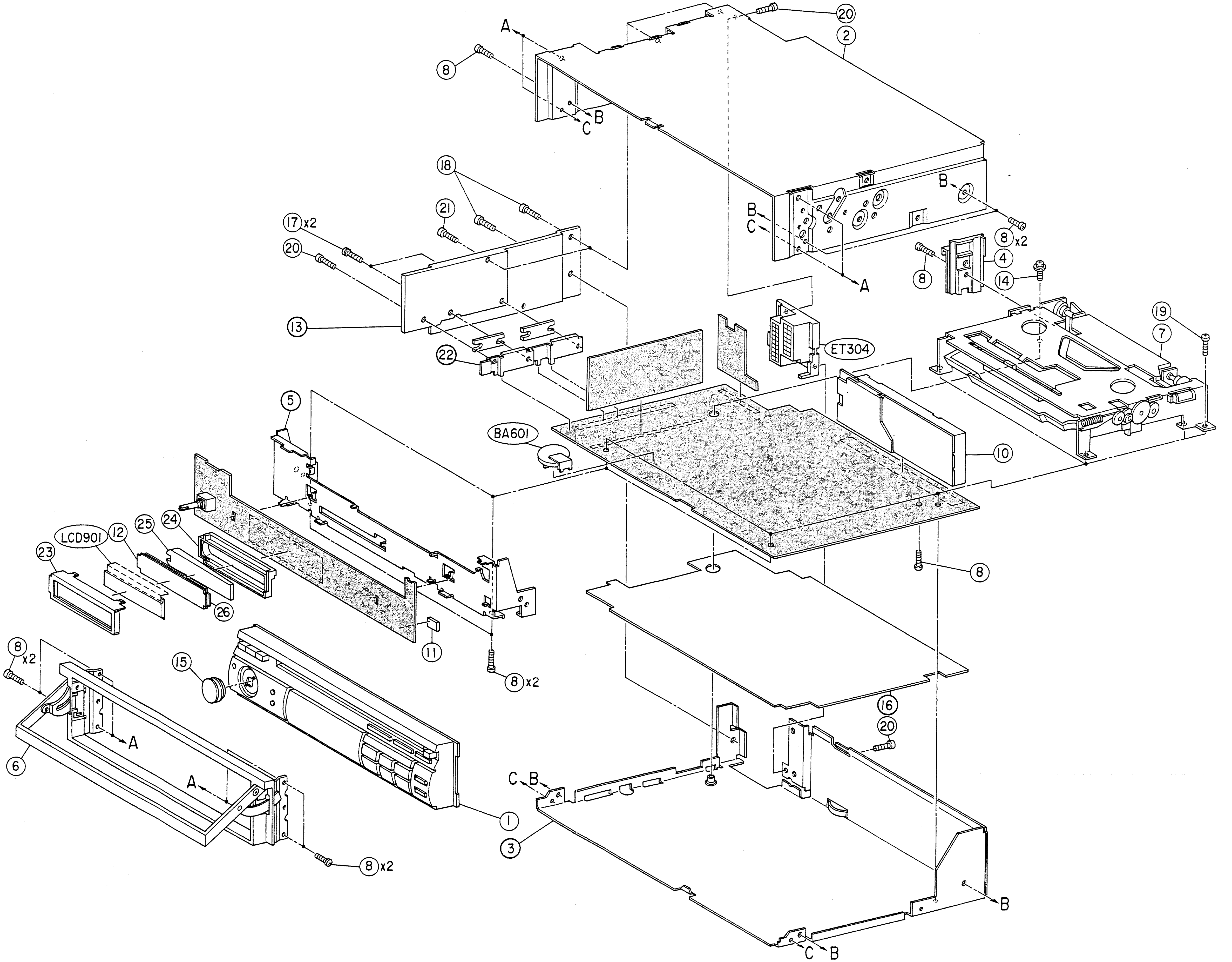
Symbol No.	Part No.	Description
Switches		
S901	40T10876W12	Tact, SKHLAJ (TUNER / BAND)
S902	40T10876W12	Tact, SKHLAJ (DISC)
S903	40T10876W12	Tact, SKHLAJ (6)
S904	40T10876W12	Tact, SKHLAJ (5)
S905	40T10876W12	Tact, SKHLAJ (4)
S906	40T10876W12	Tact, SKHLAJ (DN)
S907	40T10876W12	Tact, SKHLAJ (EJECT)
S908	40T10876W12	Tact, SKHLAJ (TUNE / DISP)
S909	40T10876W12	Tact, SKHLAJ (3 / SCAN)
S910	40T10876W12	Tact, SKHLAJ (2 / REPEAT)
S911	40T10876W12	Tact, SKHLAJ (1 / M.I.X.)
S912	40T10876W12	Tact, SKHLAJ (UP)
S914	40T10876W12	Tact, SKHLAJ (SDK)
S915	40T10876W12	Tact, SKHLAJ (D.A.P.)
S916	40T10876W12	Tact, SKHLAJ (MONO / DX)
S918	40T10876W12	Tact, SKHLAJ (RESET)
S919	40T35390W01	Rotary, Encoder (MODE / POWER)
Capacitors		
C901	08S65128F55	CP., 680pF
E901	23S61523F12	ELY., 10μF / 16V
C902	08S65128F69	CP., 0.01μF
C903	08S65128F69	CP., 0.01μF
C904	08S53332F60	CP., 0.15μF
C905	08S53332F60	CP., 0.15μF
C906	08S65128F72	CP., 0.022μF
Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)		
R901	06S64995F93	47K ohm
R905	06S64995F61	2.2K ohm
R906	06S64995F65	3.3K ohm
R907	06S64995F71	5.6K ohm
R908	06S64995F79	12K ohm
R909	06S64995F89	33K ohm
R910	06S64995F61	2.2K ohm
R911	06S64995F65	3.3K ohm
R912	06S64995F71	5.6K ohm
R913	06S64995F79	12K ohm
R914	06S64995F89	33K ohm
R915	06S64995F61	2.2K ohm

Symbol No.	Part No.	Description
R916	06S64995F65	3.3K ohm
R917	06S64995F71	5.6K ohm
R918	06S64995F79	12K ohm
R920	06S64996F18	470K ohm
R921	06S64996F18	470K ohm
R922	06S64995F77	10K ohm
R923	06S64995F69	4.7K ohm
R924	06S64995F69	4.7K ohm
R925	06S64995F77	10K ohm
IN / OUT P. C. Board		
Diodes		
D810	48T81044F01	10E2
D813	48T94608F03	CP., DAN202U
Resistor		
R823	06T70072F53	CP., 1K ohm 1/4W
Load / Photo P. C. Board		
IC / Transistors		
IC1301	51T15267W01	IC, LB1641
PT1301	48T92913F01	Photo, PT360
PT1302	48T92913F01	Photo, PT360
PT1303	48T92913F01	Photo, PT360
Diode / LED's		
ZD1301	48T15440W12	Zener, UTZJ6.2C
LD1301	48T16057W02	LED, AN501-B1 (RED)
LD1302	48T16057W02	LED, AN501-B1 (RED)
LD1303	48T16057W02	LED, AN501-B1 (RED)

Symbol No.	Part No.	Description
Capacitors		
C1301	08S65128F69	CP., 0.01 μF
C1302	08S65128F69	CP., 0.01 μF
Resistors (All resistors are chip 1/8W ± 5% unless otherwise noted.)		
R1301	06S53330F43	390 ohm
R1302	06S53330F47	560 ohm
R1304	06S53331F02	100K ohm
R1305	06S53331F02	100K ohm
R1306	06S53331F02	100K ohm
R1308	06T70072F01	4.7 ohm 1/4W
R1309	06T70072F01	4.7 ohm 1/4W
R1310	06S53330F47	560 ohm
R1311	06S53331F02	100K ohm
Miscellaneous		
BA601	60T91060F01	Battery Lithium, CR2032
ET304	01T25803W08	QRB, Socket
LCD901	65T35391W01	LCD Display
HD1201	88T15309W01	Pick Up Unit
M1301	01V13100W97	Assy., Loading Motor 6V-210mA
M1302	59T91005F01	Motor, Spindle 2V-90mA
M1303	59T52973F03	Motor, Sled 6V-210mA
S1301	40T71025F03	Switch, Detector (CAM END)
S1302	40T71025F01	Switch, Detector (LIMIT)
PT1304	48T92913F01	Transistor, Photo PT360
LD1304	48T16057W02	LED, AN501-B1 (RED)
SD1301	01A90816F01	Assy., Clamp Solenoid

Symbol No.	Part No.	Description

Exploded View (Cabinet)


20
2
A
8
B
C
18
21
17 x2
20
13
22
B
C
B
8 x2
4
8
14
A
ET304
19
7
5
BA601
10
LCD901
12
25
24
23
26
11
8
8 x2
15
8 x2
A
6
A
1
8 x2
16
20
C B
3
B
C B
1
2
3
4
5
A
B
C
D
E
F
G
H

Cabinet Assembly Parts List

Notes : ● The parts without parts list are not supplied.
● Parts marked * will need a long delivery time, or may be not supplied in some cases.

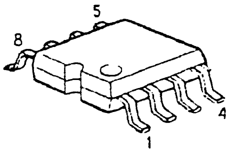
Symbol No.	Index	Part No.	Description
1	5-D	13D32016W03	Assy., Nosepiece
2	1-F	15C31091W01	Cover, Top
4	2-F	15B31095W01	Cover, P.C.Board
6	4-A	07C21606W01	Assy., Bracket Handle
*7	3-G	81D30153W01	CD Mechanism DP24A210
8		03S44205G34	Screw, Pan (M2.6 x 5)
10	3-F	77C30794W01	FM/MW/LW Tuner Unit, MB4R901B (FE001)
11	4-C	75S62361F49	Cushion, Rubber
12	3-B	26A31090W02	Reflector, Sheet
14	2-F	03D40121T43	Screw, W/Double Washer (M2.6 x 6)
15	4-B	36A31085W01	Knob, Rotary
17	2-C	03S40014G74	Screw, W/Washer (M2.6 x 16)
18	2-C	03S44205G76	Screw, Pan (M2.6 x 8)
19	2-G	03S44205G29	Screw, Pan (M2.6 x 6)
20		03S52360F78	Screw, Pan (M2.6 x 8)
21	2-C	03S38013W04	Screw, Pan (M2.6 x 12)
23	3-B	26A31087W01	Shield, LCD
24	3-B	15B31088W01	Cover, LCD
25	3-B	61A31089W01	Lens, LCD
26	4-B	26A31090W03	Reflector, Sheet

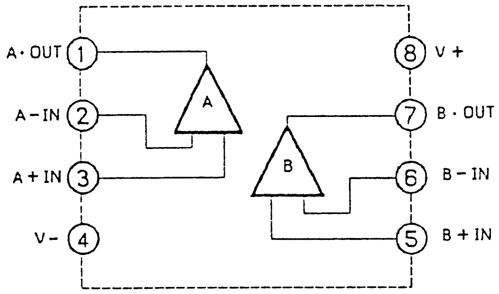
Symbol No.	Index	Part No.	Description

Semi-Conductor Lead Identifications

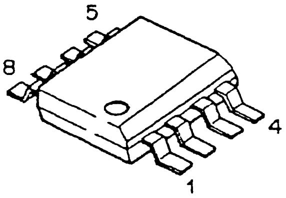
Note : The parts is not mentioned, refer to the Service Manual 7803M (68P32124W02).

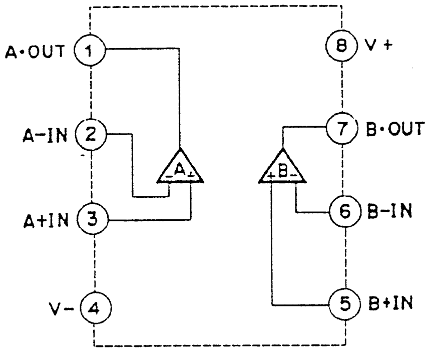
NJM4560E : IC202, 203, 205, 207~210, 213, 214, 801



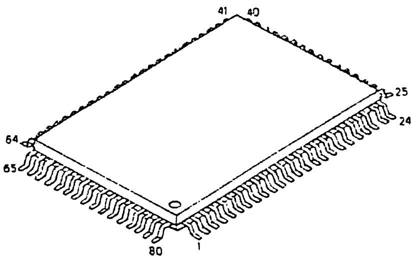


BA4560F : IC205, 207~210





35139W01 : IC601



PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I.O
1	GND	–	23	EJECT - END	I	45	ALARM	O	67	O - INT	O
2	AV_{REF}	I	24	DISC - IN	I	46	DTS - START	I	68	O - REM	O
3	V_{DD}	–	25	LOAD - BWD	O	47	A - HOLD	I	69	POWER - ON	O
4	V_{DD}	–	26	LOAD - FWD	O	48	B - HOLD	I	70	EV - INH	O
5	$\overline{\text{V-OUT}}$	O	27	LOAD - CONT	O	49	DTS - MUTE	I	71	EV - DATA	O
6	GND	–	28	V - CONT	O	50	STS	I	72	EV - CLOCK	O
7	GND	–	29	$\overline{\text{PULL UP SW}}$	O	51	CMD	O	73	GND	–
8	GND	–	30	F - CONT	O	52	CLOCK	I	74	ENCOD - DOWN	I
9	LCD - INH	O	31	FM LEVEL	O	53	GND	–	75	ENCOD - UP	I
10	LCD - DATA	O	32	$\overline{\text{CD - RESET}}$	O	54	GND	–	76	GND	–
11	LCD - CLOCK	O	33	GND	–	55	GND	–	77	T - SENSE	I
12	LCD - CE	O	34	BUS3	I/O	56	NC	–	78	KEY - A/D0	I
13	NC	–	35	BUS2	I/O	57	GND	–	79	KEY - A/D1	I
14	NC	–	36	BUS1	I/O	58	X1	I	80	KEY - A/D2	I
15	NC	–	37	BUS0	I/O	59	X2	O			
16	NC	–	38	CCE	O	60	$\overline{\text{RESET}}$	I			
17	AREA 1	I	39	BUCK	O	61	GND	–			
18	AREA 2	I	40	LOCK	O	62	$\overline{\text{TP}}$ (GND)	–			
19	AREA 3	I	41	$\overline{\text{CAM - END}}$	O	63	$\overline{\text{IN - PAUSE}}$	I			
20	$\overline{\text{LIMIT - SW}}$	I	42	SOLENOID	O	64	$\overline{\text{IN - INT}}$	I			
21	B - END	I	43	$\overline{\text{A - MUTE}}$	O	65	$\overline{\text{SDK - TONE}}$	O			
22	RELOAD	I	44	$\overline{\text{CD}}$ / TUNER	O	66	DTS - CE	O			

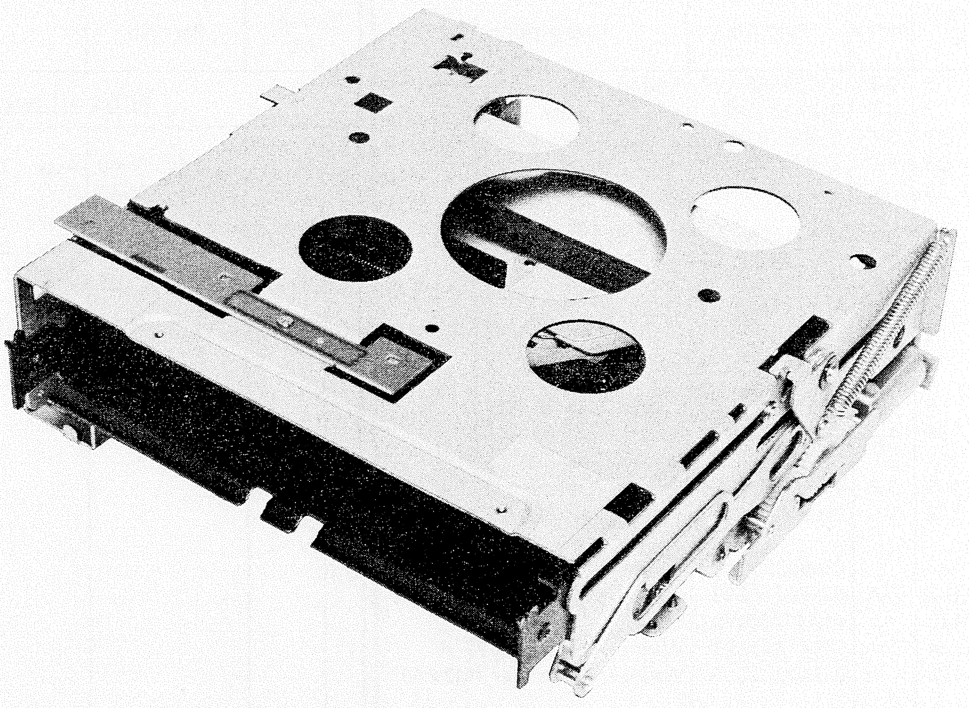
ALPINE®

SERVICE MANUAL

In-dash CD Changer Mechanism

3D Shuttle

ADDENDUM & REVISED



DS SERIES

Contents

CD Mechanism Assembly Parts List 2
Exploded View (CD Mechanism) .... 3 to 4

CD Mechanism Assembly Parts List

Note : The parts is not mentioned, refer to the Service Manual DS Series (68P50238W01).

Symbol No.		Index	Part No.	Description
	5	2-B	41B31986W12	Spring, Coil
	27	4-E	04B41345P24	Washer, Lock (M2.1)
○	33	5-C	01V41100W92	Assy., Driver Unit
□	33	5-C	01V41100W92	Assy., Driver Unit
△	33	5-C	01V53800W55	Assy., Driver Unit
○	35	2-E	01V41100W33	Assy., Chassis Top (A)
□	35	2-E	01V41100W33	Assy., Chassis Top (A)
△	35	2-E	01V63100W01	Assy., Chassis Top (A)
	51	4-D	03S40014G02	Screw, W/Washer (M2×6)
○	86	4-A	44A31666W01	Worm, Wheel Tray
□	86	4-A	44A31666W01	Worm, Wheel Tray
△	86	4-A	44A60134W01	Worm, Wheel Tray
	103	2-E	03S94385F28	Screw, Pan (M1.7×2)
	105	3-F	41B31986W13	Spring, Coil
	118	1-G	03S94385F42	Screw, Pan (M1.7×2.5)
	120		03S94385F41	Screw, Pan (M2×2.5)
	122	2-A	03S40014G82	Screw, W/Washer (M2×3.5)
	123		41A11480W01	Spring
	124		04B41345P23	Washer, Lock (M1.7)
	125		04S40075G09	Washer, Polyslider (M2×5)
	126	4-C	03D40121T38	Screw, W/Double Washer (M2×5)
	127		84T45446W01	FPC LED (1) P.C.Board

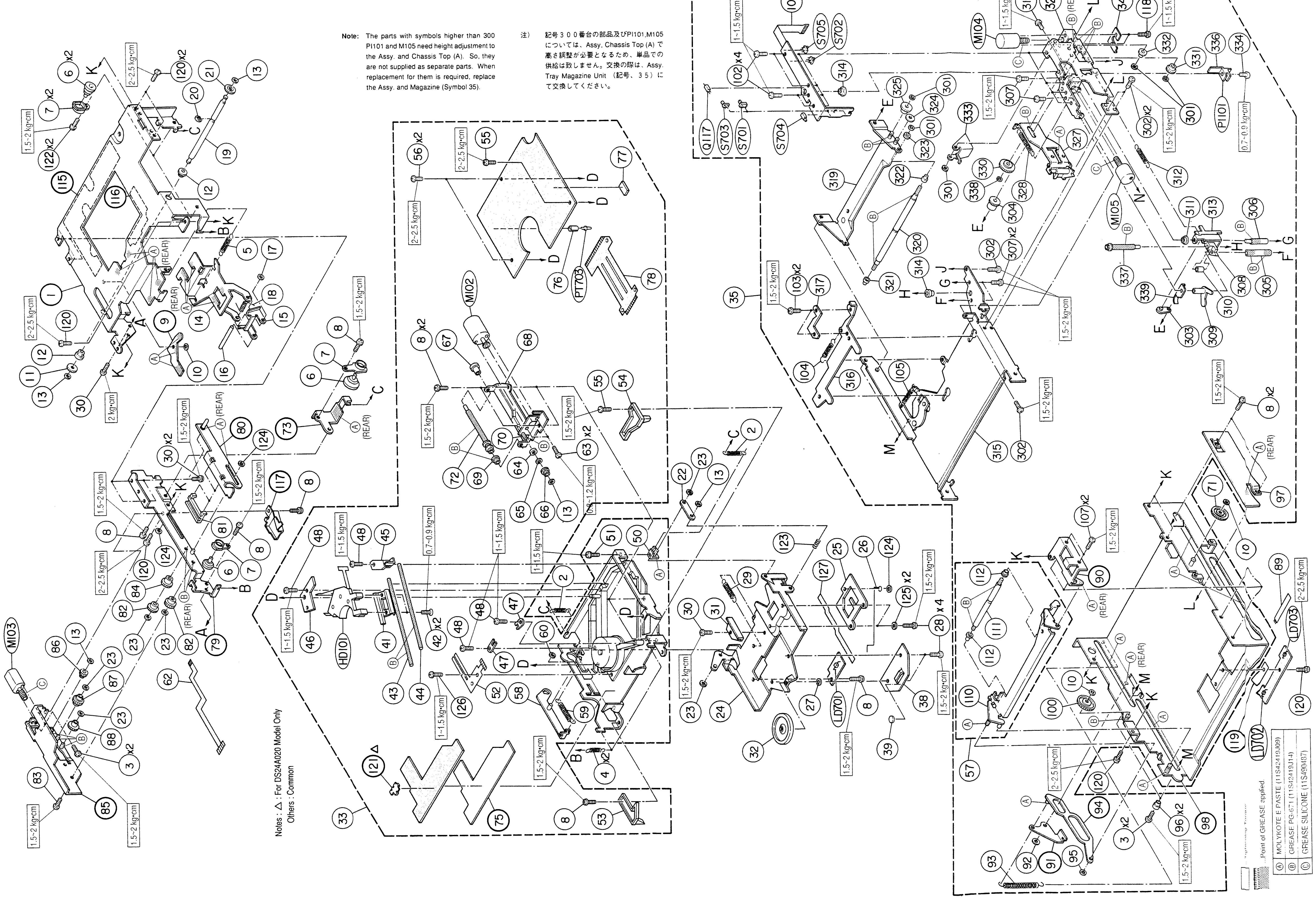
Symbol No.		Part No.	Description
Miscellaneous			
○	M103	01V14400W40	Assy., Tray Motor (6V-260mA)
□	M103	01V14400W40	Assy., Tray Motor (6V-260mA)
△	M103	01V61900W99	Assy., Tray Motor (6V-260mA)
○	M104	01V41100W38	Assy., Loading Motor (7V-260mA)
□	M104	01V41100W38	Assy., Loading Motor (7V-260mA)
△	M104	01V63100W04	Assy., Loading Motor (7V-260mA)

Notes : ○ : DS24A010 Model Only, □ : DS24A01A Model Only,
△ : DS24A020 Model Only, Others : Common.

Exploded View (CD Mechanism)

Note: The parts with symbols higher than 300 PI101 and M105 need height adjustment to the Assy. and Chassis Top (A). So, they are not supplied as separate parts. When replacement for them is required, replace the Assy. and Magazine (Symbol 35).

注）　記号３００番台の部品及びPI101,M105については、Assy. Chassis Top (A) で高さ調整が必要となるため、単品での供給は致しません。交換の際は、Assy. Tray Magazine Unit （記号、３５）にて交換してください。



1
2
3
4
5
A
B
C
D
E
F
G
H
M103
M102
M104
M105
HD101
PT703
PI101
LD701
LD702
LD703
Q117
S701
S703
S704
S705
S702
35
1.5~2 kg·cm
2~2.5 kg·cm
1~1.5 kg·cm
0.7~0.9 kg·cm
0.8~1.2 kg·cm
2 kg·cm
(REAR)

Notes : △ : For DS24A020 Model Only
Others : Common

▨ ...Point of GREASE applied

Ⓐ	MOLYKOTE E PASTE (11S42419J09)
Ⓑ	GREASE PG-671 (11S42419J14)
Ⓒ	GREASE SILICONE (11S490487)